

Volume: Coastal Zone Management Program

CARTERET COUNTY LAND USE PLAN 1985

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CARTERET COUNTY LAND USE PLAN UPDATE

1985

PREPARED FOR: CARTERET COUNTY BOARD OF COMMISSIONERS

WILLIAM E. SMITH, CHAIRMAN
JOHN MORRIS
CARL TILGHMAN
PATRICK O'HARA
LELAND GARNER

PREPARED BY:

NEUSE RIVER COUNCIL OF GOVERNMENTS
with technical assistance
from the
DIVISION OF COASTAL MANAGEMENT
and the
CARTERET COUNTY PLANNING DEPARTMENT
JOHN P. YOST, PLANNER
PRISCILLA W. BEVERIDGE, SECRETARY

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NOTE: Carteret County's hurricane evacuation, hazard mitigation and post disaster reconstruction plan was completed in June 1984. This separate document is available at the county planning department.

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SECTION 1.0

PRESENT CONDITIONS

SECTION 1.1 POPULATION

SECTION 1.1.1 CURRENT POPULATION

During the past several decades, both permanent and seasonal population in Carteret County has changed significantly. Since 1950, total permanent population had increased in 1980 from 23,059 to 41,092, an increase of over seventy-eight (78) percent in three decades (see Table 1). Increases were fairly moderate during the 1950's and 60's (less than two percent per year). Permanent population growth in the nineteen-seventies (30%) was double that of the nineteen-sixties (15%). The Morehead, Newport and White Oak townships were responsible for the most dramatic increases. Growth in these districts can be attributed in part to the development of the communities of Atlantic Beach, Cape Carteret, Emerald Isle, Newport, Indian Beach and Pine Knoll Shores. In addition to new development in towns like Atlantic Beach, Pine Knoll Shores and Indian Beach, the Morehead Township showed signs of significant growth. Dwelling units in the unincorporated portions of the township more than doubled during the seventies from 2,248 dwelling units in 1970 to 5,115 units in 1980 (see Table 2). Much of this new development may be attributed to growth in unincorporated (or previously unincorporated) portions of Bogue Banks, some of which falls into the extraterritorial planning jurisdiction of incorporated towns. However, soundside development in both Morehead and White Oak townships should be a significant factor in future growth patterns based on real estate trends in other accessible coastal areas in the southeast.

Table 1 - Permanent Population Change, Carteret County
1950 - 1980

| <u>Townships</u> | <u>1950</u> | <u>1960</u> | <u>1970</u> | <u>1980</u> | <u>Total % Change</u> |
|------------------|-------------|-------------------|-------------------|-------------------|-----------------------|
| Atlantic | 00 | 902 | 814 | 810 | -10.2 |
| Beaufort | 5,374 | 6,426 | 6,147 | 6,992 | +30.1 |
| Cedar Island | 290 | 255 | 290 | 333 | +14.8 |
| Davis | 00 | 446 | 456 | 492 | +10.3 |
| Harkers Island | 00 | 1,362 | 1,639 | 1,910 | +40.2 |
| Harlowe | 00 | 629 | 762 | 956 | +52.0 |
| Hunting Quarter | 1,519 | 00 | 00 | 00 | |
| Marshallberg | 00 | 416 | 525 | 580 | +39.4 |
| Merrimon | 374 | 344 | 330 | 426 | +23.8 |
| Morehead | 8,299 | 10,054 | 11,929 | 15,803 | +92.0 |
| Newport | 2,259 | 2,644 | 3,926 | 5,469 | +142.0 |
| Portsmouth | 33 | 8 | 2 | 00 | |
| Sea Level | 00 | 389 | 347 | 540 | +38.8 |
| Smyrna | 1,387 | 597 | 517 | 637 | -54.4 |
| Stacy | 00 | 291 | 257 | 322 | +10.7 |
| Straits | 2,251 | 1,070 | 1,166 | 1,520 | -40.0 |
| White Oak | 1,273 | 1,785 | 2,496 | 4,302 | +237.9 |
| COUNTY TOTAL | 23,059 | 27,438 (+19.0) | 31,603 (+15.0) | 41,092 (+30.0) | +78.2 |

SOURCE: U.S. Department of Commerce, Bureau of the Census

Table 2 - Increase in Dwelling Units
1970 - 1980

| <u>Township</u> | <u>1970 Dwelling Units</u> | <u>1980 Dwelling Units</u> | <u>Percent Increase</u> |
|---|--------------------------------|--------------------------------|-----------------------------|
| Atlantic | 305 | 399 | 30.8 |
| Beaufort | 926 | 1,125 | 21.5 |
| (Beaufort) | 1,272 | 1,772 | 39.3 |
| Cedar Island | 107 | 146 | 36.4 |
| Davis | 162 | 223 | 37.6 |
| Harkers | 602 | 925 | 53.6 |
| Harlowe | 250 | 373 | 49.2 |
| Marshallberg | 201 | 271 | 34.8 |
| Merrimon | 140 | 209 | 49.3 |
| Morehead | 2,248 | 3,459 ^b | 53.9 |
| (Atlantic Beach) | 1,586 | 2,699 ^b | 70.2 |
| (Atlantic Beach planning jurisdiction) | 0 | 1,656 | 1000 + |
| (Indian Beach) | 500 ^a | 1,329 | 165.8 |
| (Pine Knoll Shores) | 0 | 1,007 | 1000 + |
| (Morehead City) | 1,973 | 2,043 | 3.5 |
| Newport | 735 | 1,499 | 104.0 |
| (Newport) | 534 | 647 | 21.2 |
| Sea Level | 145 | 173 | 19.3 |
| Smyrna | 185 | 262 | 41.6 |
| Stacy | 93 | 124 | 33.3 |
| Straits | 469 | 686 | 46.3 |
| White Oak | 728 | 1,311 | 80.0 |
| (Cape Carteret) | 204 | 428 | 110.0 |
| (Emerald Isle) | 304 | 2,396 | 688.0 |
| TOTALS | 13,669 | 25,162 | 98.6 |

^a Estimate for units in unincorporated areas of Bogue Banks, 1970.

^b Figure from appropriate Land Use Plans

The beach towns of Atlantic Beach, Emerald Isle, Indian Beach and Pine Knoll Shores have experienced tremendous growth over the past two decades, as a result of investment in second and retirement homes (see Table 3). Newport, one of the oldest municipalities in the county, doubled in population between 1960 and 1970, a result of expansion of the U.S. Marine Corps base at Cherry Point. Beaufort lost population between 1950 and 1960, but grew by 13.6 percent between 1970 and 1980. Since a high population of 5,583 in 1960, Morehead City's population has decreased 22 percent, to 4,359 in 1980. The decrease can be attributed to declining family sizes and migration to suburban residential neighborhoods such as Mitchell Village, Country Club Road, Spooners Creek, and sound front areas along Highway 24.

Table 3 - Municipal Population in Carteret County
1950 - 1980

| <u>Municipalities</u> | <u>1950</u> | <u>1960</u> | <u>1970</u> | <u>1980</u> | <u>Total % Change 1970 - 1980</u> |
|-----------------------|-------------|-------------|-------------|-------------|---------------------------------------|
| Atlantic Beach | 49 | 76 | 300 | 941 | 213.7 |
| Beaufort | 3,212 | 2,922 | 3,368 | 3,826 | 13.6 |
| Cape Carteret | 00 | 52 | 616 | 944 | 53.2 |
| Emerald Isle | 00 | 14 | 122 | 865 | 609.0 |
| Indian Beach | 00 | 00 | 00 | 54 | 00.0 |
| Morehead City | 5,144 | 5,583 | 5,233 | 4,359 | -16.7 |
| Newport | 676 | 861 | 1,735 | 1,883 | 8.5 |
| Pine Knoll Shores | 00 | 00 | 00 | 646 | 941.9 |

SOURCE: U.S. Department of Commerce, Bureau of the Census.

SECTION 1.1.2 FUTURE POPULATION

General projections for the county have been prepared by the Office of State Budget and Management through 1990. These figures reflect only permanent population (See Table 4).

Table 4 - Permanent Population Projections for Carteret County,

1980-1990

| <u>1980</u> | <u>1983</u> | <u>1985</u> | <u>1990</u> |
|-------------|-------------|-------------|-------------|
| 41,089 | 44,747 | 47,039 | 53,090 |

These figures reflect a gradually increasing permanent population (about 29% over the ten-year period, or three percent a year). Of greater significance are projections for peak summertime populations for Bogue Banks, other incorporated areas, and unincorporated areas attracting seasonal residents.

The Carteret County Economic Development Council has estimated there were 1,750,000 tourist visitors during 1980. Most of these seasonal residents visit Carteret County during the months of April through October. These temporary residents create tremendous demands on transportation systems, solid waste collection/disposal operations and water and sewer facilities.

Table 5 presents peak seasonal population figures for the unincorporated portions of townships and incorporated towns and cities for the 1970-1990 period. Peak housing occupancy figures (in persons per household) were derived from 1970 housing counts and 1970 peak seasonal estimates. Peak seasonal population for 1980 was derived by multiplying 1970 seasonal occupancy rates by 1980 housing counts. The figures for 1990 peak seasonal estimates were (except as otherwise footnoted) derived by applying the rate of increase in total number of dwelling units between 1970 and 1980 by the seasonal occupancy rates used in deriving the 1980 estimates.

Table 5 - Peak Seasonal Population Trends
1970 - 1990

| <u>Townships (unincorporated areas)</u> | <u>1970¹</u> | <u>1980²</u> | <u>% Increase</u> | <u>1990²</u> | <u>% Increase</u> |
|---|-------------------------|-------------------------|-------------------|-------------------------|-------------------|
| Atlantic | 825 | 1,077 | | 1,409 | |
| Beaufort | 2,775 | 3,375 | | 4,101 | |
| Cedar Island | 300 | 409 | | 557 | |
| Davis | 475 | 653 | | 900 | |
| Harkers | 2,000 | 3,053 | | 4,689 | |
| Harlowe | 775 | 1,156 | | 1,727 | |
| Marshallberg | 550 | 743 | | 1,000 | |
| Merrimon | 330 | 493 | | 736 | |
| Morehead | 6,250 | 9,616 | | 14,799 | |
| Newport | 2,191 | 4,467 | | 9,113 | |
| Sea Level | 350 | 415 | | 494 | |
| Smyrna | 525 | 744 | | 1,054 | |
| Stacy | 257 | 342 | | 455 | |
| Straits | 1,175 | 1,715 | | 2,510 | |
| White Oak | 1,800 | 3,238 | | 5,829 | |
| TOTALS: Unincorporated Carteret County | 20,578 | 31,496 | +53.1 | 49,373 | +56.8 |
| <u>Municipalities</u> | | | | | |
| Atlantic Beach | 4,800 | 12,300 | | 26,158 | |
| Beaufort | 3,500 | 4,873 | | 6,787 | |
| Cape Carteret | 800 | 1,678 | | 3,524 ^b | |
| Emerald Isle | 912 ^a | 8,500 | | 12,500 ^b | |
| Indian Beach | 2,007 ^a | 3,987 | | 7,920 | |
| Morehead City | 5,500 | 5,700 | | 5,901 | |
| Newport | 1,735 | 2,103 | | 2,548 ^c | |
| Pine Knoll Shores | 0 | 3,413 ^c | | 6,270 ^c | |
| TOTALS: Municipalities | 19,254 | 42,554 | +121.0 | 71,608 | +68.3 |
| TOTALS: Carteret County | 39,832 | 74,050 | +85.9 | 120,981 | +63.4 |

^aEstimated from d.u. counts at 3.0 persons/d.u.

^bTaken from Von Oeson & Associates, "Relationship of Wastewater Disposal Practices on Development Density of Emerald Isle," 1983.

^cTaken from Pine Knoll Shores 1981 Land Use Plan.

¹Carteret County 1970 Comprehensive Water and Sewer Report.

²Office of Coastal Management estimates (1983) derived from 1970 seasonal occupancy rates and 1980 census housing counts, unless otherwise footnoted.

While increases in municipal growth rates are expected to be quite significant overall, increases in seasonal population are expected to be substantial in unincorporated areas as well. Peak seasonal population in Carteret County townships increased by over fifty (50) percent during the nineteen-seventies. A similar figure is projected for the eighties decade. This estimate may be conservative, since most of the residential development which occurred in the last decade has been in the form of single family or duplex units. The first three years of this decade have been characterized by a trend toward high density multi-family developments, mostly in the incorporated areas of Bogue Banks. However, there exists the potential for a "spill-over" effect in attractive sound front areas throughout the county as the beach areas fill up.

Peak seasonal population increases in municipal areas were phenomenal in the 1970's, averaging 121 percent. Peak seasonal population in Atlantic Beach is expected to more than double in the course of the next decade, in part due to the Town's policy of encouraging growth as a means of reaching the economic ability for the provision of central sewer services.¹ Cape Carteret's population is also expected to more than double, based on past and expected development trends. The Von Oeson and Associates wastewater study estimated a conservative figure for potential growth in Emerald Isle over the next decade; use of this figure reflects an expectation that the Town will initiate actions to moderate its growth potential. The Town of Indian Beach should also double in peak population; more dramatically, if development there

¹Atlantic Beach Land Use Plan (1981) and Management Systems for the Town of Atlantic Beach (1983).

occurs at the town's prevailing density (11 dwelling units per acre), this small area could accommodate over 16,000 peak seasonal residents by 1990.² The Town of Pine Knoll Shores should experience triple the 1980 seasonal population based on expected dwelling unit counts by 1990, based on estimates in the Town's Land Use Plan.

Carteret County's peak seasonal population should swell by over sixty percent by 1990, to over 120,000 persons. A large percentage of this increase will occur in the incorporated areas, but growth in unincorporated areas will be substantial as well. Because of the trend toward higher density multi-family dwellings, particularly in areas that were formerly single family, these estimates may be conservative.

SECTION 1.2

PRESENT ECONOMY

The mainstays of Carteret County's economy are its tourism, retirement community, military preserve, commercial fisheries and agriculture industries, and industrial development some of which is associated with the State Port Authority at Morehead City.

SECTION 1.2.1 THE TOURISM/RECREATION INDUSTRY

Tourism in Carteret County consists of sport fishing, boating, vacationing, day beach visits and second and summer home development. There seems to be little disagreement that the value of tourism to the Carteret County economy is substantial, but there are disagreements regarding how significant that value is.

²Based on 228.8 vacant acres developed at 11 dwelling units/acres with peak seasonal occupancy estimated at 4:16 persons per household.

In 1979, the State began a project to estimate tourist related expenditure throughout the State. The State's estimates for Carteret County for 1979 and 1980 were \$62 million and \$69 million respectively. It was also estimated that these values would be low in situations where there is a substantial summer house market (second or summer home development is increasing significantly on Bogue Banks).

- o Day visitors to the county average about 3,700 during the peak May-August period each year.
- o Overnight visitors to the county average about 15,000 per night during the peak May-August period (an average increase in County population of about 35% during the summer months).

The Carteret County Economic Development Council (EDC) estimates that the County receives about 1,750,000 visitors per year.

According to the N.C. Department of Travel and Tourism, tourism revenue in 1983 for Carteret County was \$79 million. "And that figure is probably closer to \$100 million. These expenditures help create jobs. The travel dollar turns over about 3.5 times (before leaving the county), so that's a \$280 million a year figure when all is considered," the Department stated at a January, 1984 meeting with leaders in the County. The additional dollars above the \$79 million figure represent income related to condominium and cottage rentals. Since, according to the N.C. Department of Revenue, total retail sales in Carteret County for the 1982/83 year were only \$272 million, it is likely that tourism revenue for the County is somewhere between the estimates.

The new County Crystal Coast Civic Center, located on Bogue Sound, opened in the Spring of 1984. It is expected to provide an additional

boost for the tourism/recreation industry. Facilities include a 1200 seat exhibition hall, meeting rooms, a Sound-front patio, a snack bar and kitchen. The facility is expected to provide a forum for boat shows, concerts, conventions, seminars and other exhibitions.

Section 1.2.2 COMMERCIAL FISHERIES AND RESEARCH

The commercial fishing industry is extremely important to the overall economy of Carteret County. Data on commercial fishing activities for the past five (5) years indicate that during this period, the County has been ranked #1 in the State of North Carolina in terms of: seafood landings (pounds); dockside value of seafood landings; number of commercial fishing vessels licensed; and in the number of full-time and part-time vessels involved in commercial fishing.

It is difficult to determine the total number of vessels in Carteret County that are actually involved in commercial fishing activities on a full-time basis. In 1981, the State estimated that the number of vessels involved in commercial fishing activities by category was as follows:

| <u>Vessel Use</u> | <u>Number</u> |
|--------------------------|---------------|
| Full-time Vessels | 1,365 |
| Part-Time Vessels | 1,482 |
| Pleasure Fishing Vessels | <u>1,080</u> |
| Total | 3,927 |

This figure represents an increase of 150 vessels over the 1980 estimate.

In the report on "Coal Export in North Carolina," it was estimated that 2,432 full-time fishermen, 2,216 part-time fishermen and 1,547

pleasure boat fishermen were involved actively in commercial fishing in the County. Using a factor of .9 secondary jobs (fishing support activities such as boat construction, supply and maintenance and fish processing) for every full-time commercial fishing job, it was estimated that about 4,621 persons are involved in the County's fishing industry. This means that over 10% of the residents of the County are involved in the fishing industry on a full- or part-time basis.

Data on seafood landings by county is maintained by both the State of North Carolina and the National Marine Fisheries Service. Table 6 below compares the data collected on fish landings for the years 1976-1981.

Table 6
Estimated Landings in Carteret County
(millions of pounds)

| YEAR | STATE OF NORTH CAROLINA | NAT. MARINE FISHERIES SERVICE |
|------|----------------------------|----------------------------------|
| 1976 | 27 | 99 |
| 1977 | 30 | 127 |
| 1978 | 37 | 139 |
| 1979 | 47 | 219 |
| 1980 | 48 | 181 |
| 1981 | 30 | NA |

It is generally assumed that a local community will receive between 2 and 2.5 times the dockside value of the landings in local income. Using this range and the data on dockside values of the National Marine Fisheries Service (which includes menhaden landings) the economic value of the commercial fishing industry to Carteret County in 1980 was between \$46 and \$57 million dollars.

There are five marine science and research facilities located in Carteret County.

These facilities are:

- o National Marine Fisheries Services Laboratory
- o Duke University Marine Laboratory
- o University of North Carolina Institute of Marine Science
- o North Carolina Division of Commercial Fisheries Laboratory
- o North Carolina Coastal Resources Center

Permanent employment is over 250 people and the associated income brought into the County approaches \$10 million annually.

SECTION 1.2.3 AGRICULTURE

According to the 1978 Census of Agriculture, fully twenty (20) percent of Carteret County's land area was held in active agricultural farms in 1978 (68,663 acres). This is a significant increase over 1974, when only 25,330 acres (7.4 percent) were agricultural. The twenty percent figure is significant in that federal, forested and freshwater wetlands total some 68 percent of the land area in the County.

This large increase between 1974 and 1978 can be attributed almost solely to the establishment of large corporate farms in the County. Almost all of the corporate-owned farmland is new land in production. Farms include the 45,000 acre Open Grounds Farm, located in east-central Carteret County, and Smyrna Farms (8,000 acres) located off Highway 70 East.

Although comparison figures for 1974 are not available, it appears that the total acreage held in family farms (either full or part owners) did not change appreciably from 1974 to 1978. The total number of farms decreased by some 26 percent, which would indicate consolidation of holdings. This change took place among full owners of farms.

Harvested Cropland in Carteret County
1974, 1978, and 1982

| | <u>1974</u> | <u>1978</u> | <u>1982</u> |
|--------------------|-------------|--------------------|------------------|
| Total Acreage | 25,330 | 68,663 (+171.0) | |
| Total Cropland | 13,356 | 34,669 (+160.0) | |
| Harvested Cropland | 11,291 | 17,562 (+55.5) | 30,870* +75.8 |

*Does not include crops in which 50 acres or less were harvested.

Harvested cropland jumped some 55 percent between 1974 and 1978, the time period when several of the corporate farms began their operations. Between 1978 and 1982, this figure increased further to 75.8 percent, an average increase of almost nineteen (19) percent per year.

Corn, soybeans and tobacco are the leading crops produced in Carteret County. The amount of acreage planted in corn has more than tripled since 1974; the amount of land planted in soybeans has doubled. Yields of major crops for 1981 and 1982 are given below.

| | <u>1981</u> | <u>1982</u> |
|--------------------|-------------|-------------|
| Corn (bushels) | 842,000 | 1,315,000 |
| Soybeans (bushels) | 387,000 | 387,000 |
| Tobacco (lbs) | 1,670,000 | 2,002,000 |

Total crop values reflect the increase in land in production, jumping from roughly \$7.5 million in 1975 to \$13.5 million in 1979 (Carteret County EDC Statistical Abstract). Crop values remained at roughly the 1979 level in 1980 and 1981.

SECTION 1.2.4 PORTS-RELATED INDUSTRY

One of Carteret County's primary sources of industrial development is its deep water port and existing industrial base in the Morehead City-Beaufort Area. There are also numerous small industries scattered throughout the County, as well as larger ventures such as Connor Homes and Blue Bell (see Section 1.2.5).

The Morehead harbor is served by a three-mile, 42' deep ocean channel leading to Beaufort Inlet. From Beaufort Inlet, the Morehead City Channel continues approximately two additional miles to the State Ports Authority (SPA) Terminal. The depth of this channel is 40 feet.

The Morehead City Channel passes between the eastern end of Bogue Banks, near Brandt Island and Fort Macon State Park, and Radio Island, which is in unincorporated Carteret County. A turning basin with a 1,200-foot diameter lies between Brandt Island, Radio Island and the SPA Terminal, where the Morehead City channel ends.

Radio island is bordered by the 15-foot deep Bulkhead Channel to the east, which is connected to the Intracoastal Waterway in the Newport River. Currently, the channel is primarily used by research vessels associated with Pivers Island, commercial fishing vessels (primarily Menhaden vessels) and sport fishing and pleasure boats.

Section 1.2.4.1 State Ports Authority Facilities

The State Ports Authority currently operates facilities at its Morehead City terminal. The available facilities include:

- o 5,300 feet of continuous concrete wharf, including a 1,000-foot berth for bulk cargo handling.

- o A barge terminal north of U.S. 70 which consists of 1,200 feet of dock space and provides four 300-foot berths. This facility is currently used for phosphate handling.
- o Four transit sheds with a capacity of 342,500 square feet.
- o Warehouse space totalling 496,550 square feet.
- o Fourteen (14) acres of paved open storage with rail and truck access.
- o A 3-million ton capacity (annual) bulk facility for receiving, storing, conveying, loading and shipping bulk cargoes. The loading capacity is 3,000 tons per hour. Storage capacity is 106,000 tons.
- o A 3-million ton capacity (annual) coal handling facility. The loading capacity is 1,500 tons per hour.
- o Two 115-ton capacity gantry cranes. A container crane was previously available at the facility, but has been removed.

Texas Gulf Sulfur transports phosphate rock, phosphoric acid, and phosphate fertilizer by barge from Auroa via the Inland Coastal Waterway to Morehead City. Typically, eight barges a day with a capacity of 2,000 tons each utilize the facility.

North Carolina Phosphate Corporation has an option to build a storage building on Calico Creek to the North of Texas Gulf's existing phosphate storage facility. It is anticipated that NCPC will barge several million tons per year through Morehead City, with operations expected to commence in 1984. The SPA expects to be able to handle this increased tonnage with its existing bulk loading facilities. Currently, an environmental impact statement is being prepared in reference to this proposal, which will be reviewed by relevant state and local agencies.

Tonnage in the general cargo, asphalt, petroleum, and military categories can vary significantly from year to year, reflecting changing demands for different commodities (Table 7). However, over the ten-year time frame, overall tonnage handled has nearly doubled.

Table 7 - Tonnage Handled at Morehead City
(in thousands of tons, rounded)

| <u>Year</u> | <u>General Import</u> | <u>General Export</u> | <u>Asphalt & Petroleum</u> | <u>Military</u> | <u>Total</u> |
|-------------|---------------------------|---------------------------|------------------------------------|-----------------|--------------|
| 1971 | 375 | 473 | 291 | 8 | 1,147 |
| 1972 | 643 | 513 | 243 | 8 | 1,407 |
| 1973 | 584 | 436 | 315 | 10 | 1,345 |
| 1974 | 539 | 560 | 253 | 6 | 1,358 |
| 1975 | 395 | 611 | 156 | 3 | 1,165 |
| 1976 | 718 | 765 | 141 | 12 | 1,636 |
| 1977 | 160 | 871 | 709 | 5 | 1,745 |
| 1978 | 275 | 948 | 771 | 23 | 2,017 |
| 1979 | 936 | 1,171 | 331 | 6 | 2,444 |
| 1980 | 716 | 978 | 324 | 8 | 2,026 |
| 1981 | 261 | 1,142 | N/A | N/A | N/A |
| 1982 | 119 | 1,528 | N/A | N/A | N/A |
| 1983 | 215 | 1,317 | N/A | N/A | N/A |

Source: Roberts & Eichler Associates, Inc. Area Development
Plan for Radio Island (June, 1982).

SECTION 1.2.5 NON-PORTS RELATED INDUSTRY

In addition to ports-related industries, Carteret County's economy is increasingly boosted by industries related to tourism and second home development. These include building construction, modular housing, land development, and real estate and service-oriented businesses. Additionally, there is a small boat building industry in the county.

Building contractors provide an extensive array of services in the County, ranging from paving, air conditioning, electrical, plumbing, insulation, roofing to general building construction.

The modular housing industry is represented by numerous modular sales establishments in addition to Connor Mobile Homes corporate offices in Newport.

Land development firms and real estates sales are perhaps the most visible beneficiaries of the development boom on Bogue Banks and other water-oriented, growing residential areas.

Service industries include an extensive range of restaurants, shops, vacation rentals and motels.

Boat building skills have long been a part of the Carteret County economy. Most of these concerns are located "Downeast" in communities such as Harker's Island and Marshallberg.

SECTION 1.2.6 IMPACT OF THE MILITARY AND RETIREES

The Marine Corps Air Station at Cherry Point is home to 11,440 Marines and Sailors and 10,997 dependents. Cherry Point is the largest single sited employer in North Carolina providing employment for 5,650 civilians. Approximately one-third of these civilian employees, with an estimated annual payroll of \$47,000,000, live in Carteret County. In addition, the estimated payroll for one-third of the approximately 2,300 military personnel living in local communities is in excess of \$14,000,000. Further economic benefit accrues to Carteret County from the \$45,800,000 annual aviation fuel purchases that come through the Defense Fuel Terminal at Beaufort, the \$5,500,000 ground fuel purchases that come through the local area, and the \$5,800,000 support goods and services that are purchased locally. Another benefit to the local economy is the civilian construction contractors on board Cherry Point who provide employment for approximately 1,000 people while putting work in place valued at \$50,000,000 this year.

The Department of Defense currently has plans to establish a decontamination facility for troops returning from overseas on Radio Island. Expected to cost \$25 million, the purpose of the facility is to meet United States Department of Agriculture standards for sanitation and disease control. The facility will cover thirty-three acres and should be in place in the late 1980's.

Additionally, the National Association of Retired Federal Employees has disclosed that in 1980 there were 1,174 federal retirees in Carteret County with gross monthly annuities in excess of \$1 million, plus 308 survivor annuitants with gross monthly annuities of over \$100,000. This totals over \$13.5 million in annual income for federal retirees alone. Military retirees and Social Security retirees would add significantly to this figure.

SECTION 1.3

EXISTING LAND USE

Carteret County contains more than 680,000 acres, fully half of which are water areas and wetlands. Von Oesen & Associates estimates that there are some 55,000 acres of saltwater wetlands in the county; large water areas include Bogue, Back and Core Sounds, and the Newport, White Oak, North and South Rivers. More than 90,000 acres (27.4 percent of the high ground total) are in federal holdings such as Croatan National Forest and Cape Lookout National Seashore and cannot be developed for urban purposes.

Table 8 - High Ground, Wetland and
Waterway Acreage in Carteret County

| | <u>Estimated Acreage</u> | <u>Percent</u> |
|------------------------------|--------------------------|----------------|
| High ground land areas | 338,778 | 49.7 |
| Wetlands (salt) | 55,000 | 8.1 |
| Small and large water bodies | 287,310 | 42.2 |
| TOTAL ACRES | 681,088 | 100.0 |

Source: Von Oesen & Associates, Carteret County Complex 201
Facilities Plan, March 1979.

Table 9 - Estimated General Land Use^a
in Carteret County, 1973 and 1981

| <u>Category</u> | <u>1973</u> | <u>Percent</u> | <u>1981</u> | <u>Percent</u> |
|--------------------------------|-------------|----------------|---------------------|----------------|
| Federal land | 70,776 | 21.0 | 92,637 ^b | 27.4 |
| Urban and rural built up | 6,177 | 1.8 | 15,700 ^b | 4.6 |
| Cropland and pasture | 20,381 | 6.0 | 68,663 ^c | 20.2 |
| Forest and freshwater wetlands | 163,230 | 48.2 | 161,778 | 48.0 |
| Other land | 78,214 | 23.0 | - 0 - | |
| TOTAL LAND AREA | 338,778 | 100.0 | 338,778 | 100.0 |

^a Von Oesen & Associates, Carteret County Complex 201 Facilities Plan,
March 1979

^b Derived from acreage totals in 1980-81 Atlantic Beach, Beaufort, Cape Carteret, Emerald Isle, Indian Beach, Morehead City, Newport and Pine Knoll Shores CAMA Land Use Plans and estimated community acreage.

^c N.C. Census of Agriculture, 1978

Since 1973, there have been significant changes in general land use in the County (see Table 9). Federal land holdings increased some 21,000 acres with the establishment of the Cape Lookout National Seashore on Core Banks. Urban and rural built up land almost doubled in the same time period, a testimony to the rapid development of resort communities on Bogue Banks and residential needs for the military near Newport. With the development of Open Grounds and other large corporate farms, crop and pasture land has more than tripled. General existing land use is shown on Map 1.

Section 1.3.1 GENERAL LAND USE DESCRIPTIONS BY CATEGORY

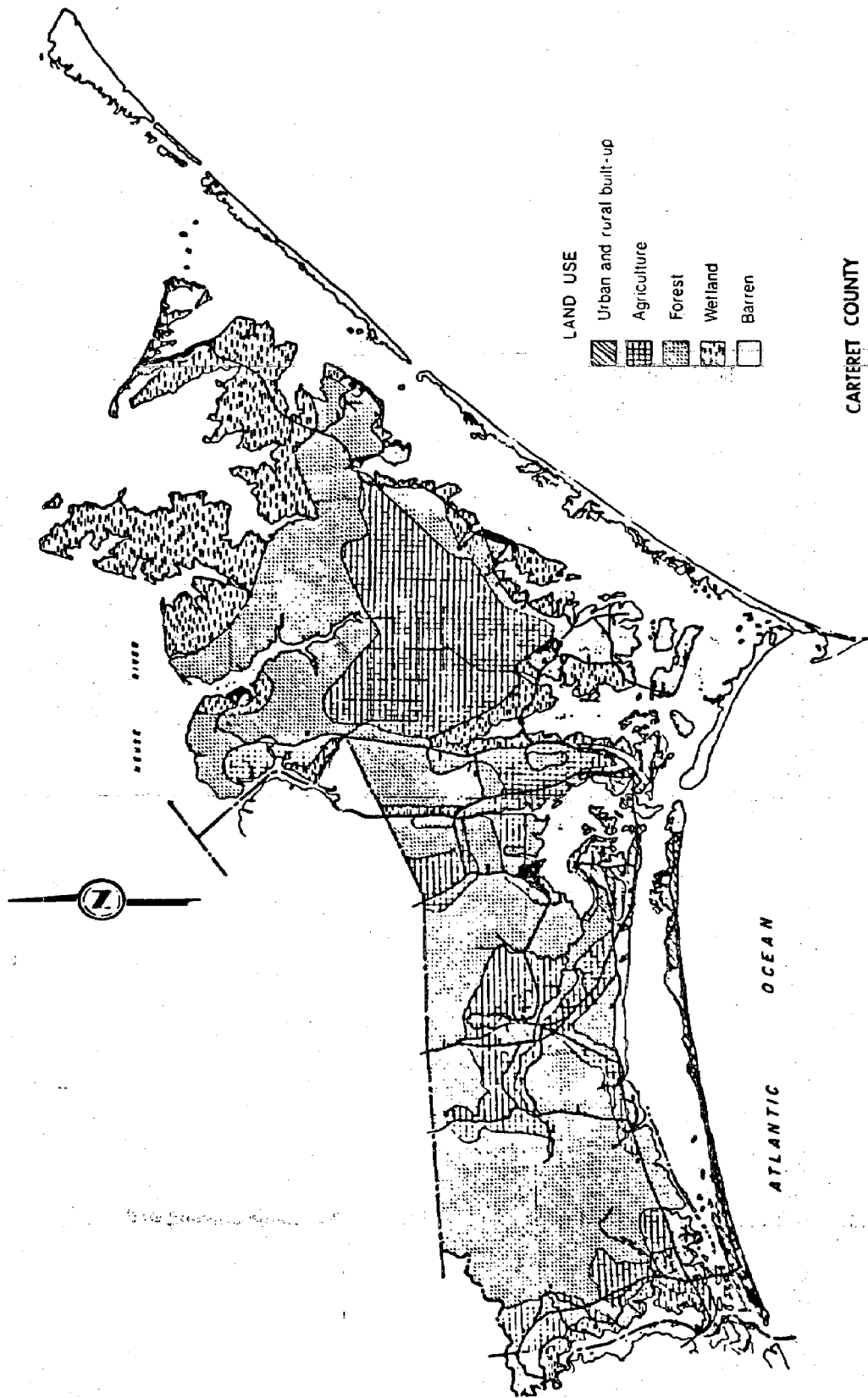
Federal Land - There are nearly 95,000 acres in federal holdings in Carteret County. These holdings include:

- o Cape Lookout National Seashore
- o Cedar Island National Wildlife Refuge
- o Point of Marsh (Marine Corps restricted military area)
- o Bogue Field
- o Atlantic Air Field
- o Croatan National Forest

Urban and Rural Built-up Land - There are over 15,000 acres in this category, which includes land within and adjacent to the municipalities of Newport, Morehead City, Beaufort, Atlantic Beach, Pine Knoll Shores, Indian Beach and Emerald Isle, and unincorporated communities such as those down east. Some 12,080 of these acres are located in or near municipalities. The remaining 3,620 acres are located in the less densely settled unincorporated communities.

1. Residential

The average density per dwelling unit in these areas is slightly over one dwelling unit per acre. (There are 13,977



- LAND USE
- Urban and rural built-up
 - Agriculture
 - Forest
 - Wetland
 - Barren

CARTERET COUNTY
NORTH CAROLINA
EXISTING LAND USE
MAP 1 Page 21

dwelling units within town limits and extraterritorial planning areas.) Actual lot sizes are much less, since much of the urban land is allocated to other developed uses and some areas are yet to be developed.

2. Commercial

There are approximately 1,000 commercial uses in the County, comprising roughly ten (10) percent of total urban and built-up acreage. The major concentration of intensive commercial development is in Morehead City and its one-mile extraterritorial area. The U.S. 70 corridor from the Hwy. 24 intersection east is the focus of much of this activity. Recently a great deal of commercial development has occurred on Bogue Banks in support of an expanding tourist industry. Commercial development throughout the County area has been geared towards providing necessary services.

3. Industrial

Recent Carteret County Economic Development Council figures indicated there were nearly 60 industries operating in the County. Many of these industries are small and occupy minimum amounts of land. Industrial activity is more fully discussed in Section 1.2.4. Major industrial employers are located in the Morehead City port area.

4. Transportation, Communication and Utilities

There are approximately 337 miles of state maintained roads in the County and 40 miles of railroad track. The Beaufort-Morehead City Airport covers 339 acres. City water and sewer facilities and electric company and telephone company holdings are also included in this category.

5. Cultural, Entertainment and Recreational

This land use includes County and State parks, churches, cemeteries and certain businesses. This land use is a small percentage of the developed land in Carteret County.

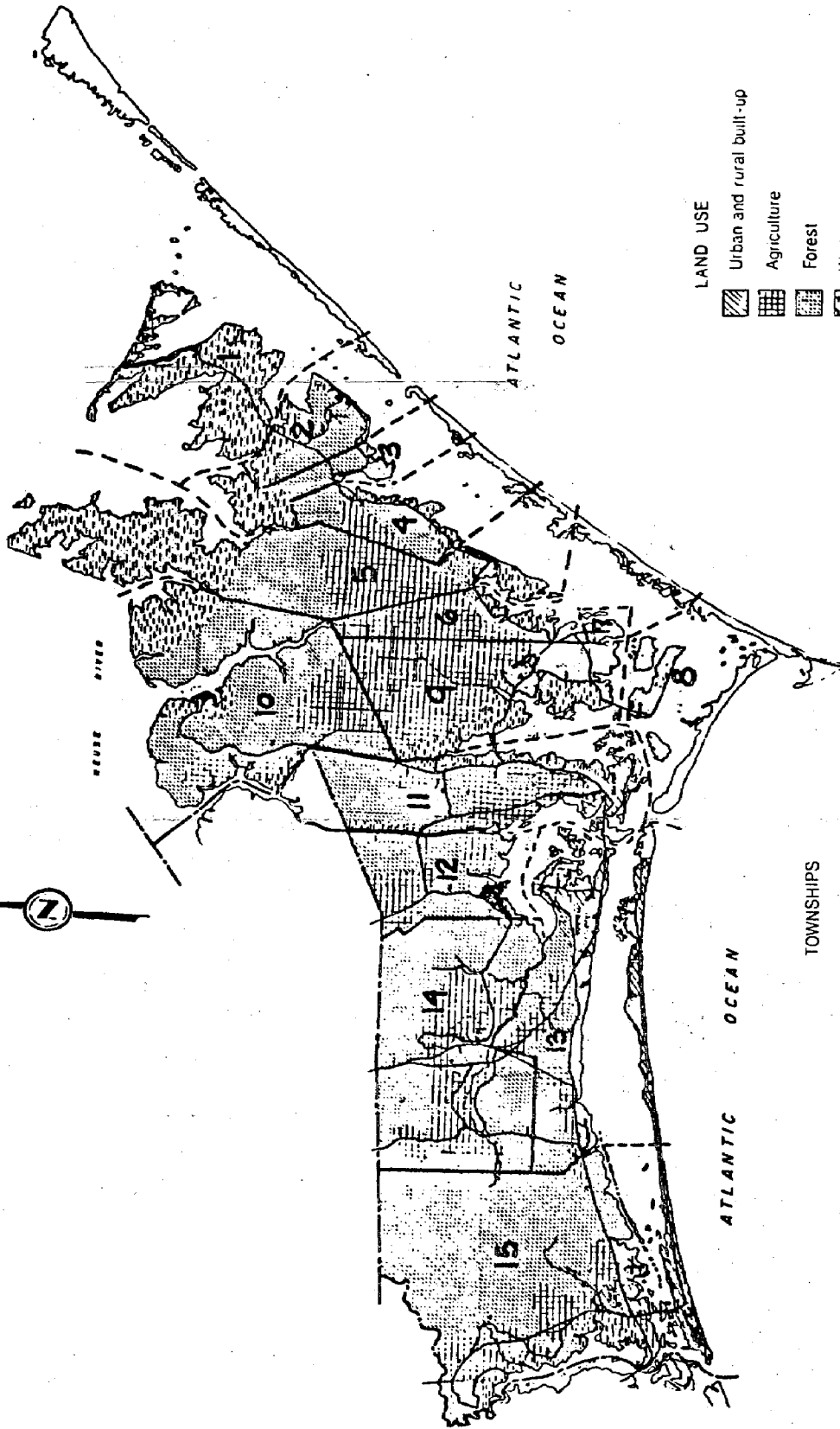
Cropland and Pasture - Agricultural lands (nearly 70,000 acres) are found predominantly in five areas:

- o along NC 58, between the Croatan National Forest and the White Oak River;
- o surrounding the Newport area;
- o along NC 101 north of Beaufort;
- o north of U.S. 70 east (Open Grounds farm and other agricultural holdings); and
- o in the Merrimon vicinity.

Forest and Freshwater Wetlands - In addition to some 70,000 acres in the federally-owned Croatan National Forest, there are extensive forested lands between Newport and NC 101 north of the Newport River; and surrounding the Open Grounds farm area in eastern Carteret County. Many of these forested areas contain extensive freshwater wetlands. Additionally, there are several thousand acres of unforested freshwater wetlands in eastern Carteret County. Urban and rural encroachment has probably reduced actual forested acreage to less than the 1973 estimate of 163,230.

Section 1.3.2 LAND USE BY TOWNSHIP

Carteret County is divided into 15 townships, most of which encompass large rural and water areas (see Map 2). Densities (in dwelling units per square mile; see Table 10) are very low, averaging less than



LAND USE

| | |
|--|--------------------------|
| | Urban and rural built-up |
| | Agriculture |
| | Forest |
| | Wetland |
| | Barren |

TOWNSHIPS

- | | |
|-------------------|--------------|
| 1) CEDAR ISLAND | 9) STRAITS |
| 2) ATLANTIC | 10) MERRIMON |
| 3) SEA LEVEL | 11) BEAUFORT |
| 4) STACY | 12) HARLOWE |
| 5) DAVIS | 13) MOREHEAD |
| 6) SMYRNA | 14) NEWPORT |
| 7) MARSHALLBERG | 15) WHITEOAK |
| 8) HARKERS ISLAND | |

CARTERET COUNTY

NORTH CAROLINA

LAND USE BY TOWNSHIP

50 units per square mile. Only the Morehead Township (312.6 dwellings per square mile) approaches the transition/developed density standard of 500 dwellings per square mile.

Table 10 - Township Densities Per Square Mile

| | <u>Population</u> | <u>Area (Square Miles)</u> | <u>Dwelling Units</u> | <u>D.U.'s/Square Miles</u> |
|-----------------|-------------------|--------------------------------|---------------------------|--------------------------------|
| Atlantic | 810 | 13.0 | 399 | 30.7 |
| Beaufort | 6,992 | 38 | 2,897 | 76.2 |
| Cedar Island | 333 | 31 | 146 | 4.7 |
| Davis | 492 | 61 | 223 | 3.7 |
| Harker's Island | 1,910 | 13 | 925 | 71.2 |
| Harlowe | 956 | 26 | 373 | 14.3 |
| Marshallberg | 580 | 6 | 271 | 45.2 |
| Merrimon | 426 | 56 | 209 | 3.7 |
| Morehead | 15,803 | 39 | 12,193 | 312.6 |
| Newport | 5,469 | 75 | 2,146 | 28.6 |
| Sea Level | 540 | 9 | 173 | 19.2 |
| Smyrna | 637 | 21 | 262 | 12.5 |
| Stacy | 322 | 16 | 124 | 7.75 |
| Straits | 1,520 | 31 | 686 | 22.1 |
| White Oak | <u>4,302</u> | <u>94</u> | <u>4,135</u> | <u>44.0</u> |
| Totals | 41,092 | 529 | 25,162 | 47.6 |

1. The Atlantic Township is located about thirty miles east of Beaufort in extreme northeastern Carteret County. It is bounded to the northeast by the Cedar Island Marsh in Cedar Island Township, and to the north and southwest by Sea Level Township. The main commercial activity in the Township, and in particular its sole community of Atlantic, is commercial fishing. The Township contains predominantly wetlands and lowland natural areas.

The largest manmade land use is Atlantic Airfield, operated and maintained under the U.S. Department of the Navy, Cherry Point Marine Corps Air Station, as an outlying field. The airfield occupies 1500 acres and is just northwest of the unincorporated community of Atlantic.

Roughly 1600 acres of the Cedar Island Wildlife Refuge falls within Township boundaries. The Atlantic Natural Area, identified as an area of regional significance by the N.C. Natural Heritage Program survey for Carteret County, covers some 3,000 acres in the Township. Currently, the primary use in the natural area has been for hunting.

Only a few hundred acres, mostly in the vicinity of the Atlantic community, contain residential and residential support uses. Average residential lot size is slightly less than one dwelling unit per acre. Trade and support services occupy approximately 21 acres. Industrial uses, including boat manufacturing and scallop houses, occupy about 9 acres.

There are a number of constraints which should limit future development in the Township. Low elevations and a high water table, combined with present methods of water supply and sewage disposal (individual wells and septic tanks) dictate large lot sites (nearly an acre per dwelling). The amount of desirable land for expansion is limited to areas fronting on or near Core Sound, particularly since the airfield effectively blocks any expansion of the Atlantic Community along its entire northwest boundary. Also the presence of the field may cause some degree of noise and safety hazards.

Any higher density development would necessitate the use of a package treatment plant for sewage disposal. Because of the area's remoteness, and because of limitations imposed by federal flood insurance regulations, it is unlikely to experience any residential development other than slowly paced growth at very low densities (less than two dwelling units per acre) in the next five to ten years.

2. The Beaufort Township is located in the geographic center of Carteret County and runs from the County border with Craven County to Beaufort Inlet. It is bounded to the northwest by Harlowe Township, to the southwest by Morehead City and the Bogue Banks communities, and to the east by the North River. Its nearest eastern neighbors are Harkers Island and Shackleford Banks.

Although it contains the County seat (Beaufort) and a number of urbanizing activities, over ninety percent of the Township's 38 square miles is made up of agricultural, forested and wetland areas. Agricultural land in active cultivation generally runs parallel to both NC 101 and U.S. 70 north of Beaufort. The vast expanse of land lying between these two corridors -- by far the largest portion of the Township's acreage -- is forested. It is not known how much of this land is being actively cultivated for commercial purposes. An extensive freshwater wetland linking the head of the North River to Adam's Creek (a Neuse River tributary) covers at least five square miles in the township. Certain areas in this marsh were identified as having regional significance in the Natural Heritage survey for Carteret County (see Straits Township below).

The Town of Beaufort is the hub of the County's historical culture, and is rapidly becoming a sailing harbor and tourist attraction with the successful completion of the Old Towne Harbor Urban Renewal project. Growth patterns within the County's jurisdiction near Beaufort should be coordinated with those of the Town in order to preserve the historic character of Beaufort.

New residential subdivision development has been occurring to the east and west of the Beaufort extraterritorial jurisdiction, and to some extent along NC 101 adjacent to Core Creek and US 70 along the North

River. If the growth trend to the north and east continues, water and sewer services should be planned in conjunction with the Town's centralized facilities. If access to such services is not available or planned, permissible densities should reflect this.

The Beaufort-Morehead Airport, which is located within Beaufort's planning jurisdiction, is an important asset to the Township and the County in general. The airport provides support services to the State Ports Authority Terminal and is expected to provide similar support services in conjunction with any OCS leases established along the Southeastern North Carolina coast. The airport will assist in the shipping of equipment, supplies and personnel to offshore drilling sites.

Areas north of the airport and the Town's extraterritorial jurisdiction are accessible to the intra-coastal waterway and are currently zoned industrial. A recent trend toward residential development makes this area one which should receive special scrutiny in terms of land classification and possible zoning changes. Air travel impacts should also be considered in evaluating future land uses in this area.

Major industries located in the township include Carteret Manufacturing, Beaufort Face Veneer, Atlantic Veneer, Beaufort Fisheries, Standard Products, Brunswick Navigation, Carteret Quick Freeze, Davis Fisheries, Gillikin Boat Works and Aviation Fuel Terminals, Inc. Most of these businesses lie within Beaufort's planning jurisdiction.

An area of special concern is Radio Island, located in the Newport River. The Island has direct access to rail service, the Morehead City and Bulkhead Channels, and US 70. The Island was created in 1936 as a spoil area for the initial dredging of the Morehead City Channel, and consists of about 240 acres suitable for development. The area had

traditionally been viewed as an expected location for port expansion, and has been zoned port-industrial since 1962. In 1982, a development plan was drafted for Radio Island, resulting in changes to the County's zoning ordinance. These changes established a review procedure for, and performance standards to be met by, new industrial users on the Island.

Another area of special concern is the Rachel Carson National Estuarine Sanctuary, a 2025 acre complex composed of Carrot Island, Horse Island, Bird Shoal and Town Marsh. The complex has been acquired by the State, which has also prepared a natural area management plan for the Sanctuary.

3. The Cedar Island Township is located at the extreme northeastern tip of Carteret County and is bounded by the Davis, Sea Level and Atlantic Townships. Most of the Township's 31 square miles consists of saltwater and brackish marsh. A large portion of Core Banks and Portsmouth Island, both part of the Cape Lookout National Seashore, lie within Cedar Island Township.

About 11,000 acres of the Township is included within the Cedar Island Wildlife Refuge area. The Refuge includes about two miles of the westernmost end of the seven-mile long Cedar Island - North Bay barrier Island. This unique area contains almost all features of an oceanfront barrier island, although it faces Pamlico Sound. The mid-section of the barrier contains a portion of the sparsely settled Cedar Island community and Cedar Island - Ocracoke Ferry debarkation point. The easternmost three miles is in a natural state and is transacted by a number of inlets, preventing access except by boat. The easternmost five miles of the barrier, identified as a natural area of nation significance (N.C. Heritage Survey for Carteret County) are privately owned.

The number of residences in this remote community increased by nearly fifty percent between 1970 and 1980, although there are still less than 200 houses in the Township. There may be some economic pressure to develop additional residences near the central area of the barrier spit. Any new development should be of very low key nature, given the Township's remoteness, exceptionally low and wet terrain, and extreme vulnerability to all types of Atlantic storms. The presence of the Marine Corps bombing range in nearby Rattan Bay is another possible hazard to future development.

Some 7000 acres in and adjacent to the Refuge forms the Cedar Island Marshes, which are bounded by Long Bay and West Bay to the northwest and north, Cedar Island proper to the northeast, Core Sound and Thorofare Bay to the southeast, and the Carteret County mainland to the southwest. A significant portion of the southwestern section of the marshes is owned by the U.S. Marine Corps and the Bayland Corporation. The U.S. Marine Corps owns approximately 500 acres northwest of N.C. 12 and the Bayland Corporation owns roughly the same amount southeast of N.C. 12.

The Cedar Island Marshes are largely unaltered. They probably contain the largest contiguous tract of undisturbed irregularly flooded salt marsh in North Carolina.

4. Davis Township, in the extreme northeastern section of the County, extends from Rattan Bay at the mouth of the Neuse River to the Core Banks. It is one of the largest and most sparsely populated townships in the County, and is bounded by the Stacy, Smyrna and Merrimon Townships.

Most of the Township's 61 square miles was originally an extensive pocosin; much of this area is now in cultivation as part of Open Grounds Farm. Most of the Township's 492 residents live in the small community of Davis, which is located along US 70 on a peninsula jutting into Core Sound. Like other downeast communities, Davis is largely supported by the fishing industry.

Any additional residential growth in the next five or ten years will be in the form of very low density second home or retirement development, due to the lack of suitable land for residential services, and the community's remoteness from more urbanized areas.

5. The Harker's Island Township includes Harker's and Brown Islands, the Shackleford Banks, and Cape Lookout. The Township lies across the North River from Beaufort, and is adjacent to the Straits and Marshallberg Townships.

Harker's Island is the only inhabited area in the Township, and is year-round home for some 1,900 residents. This figure swells to roughly 3000 persons in the summer time. The Island is supported by fishing, boat building and summer tourism. Roughly 570 acres are residential, while 25 acres are devoted to commercial uses, with another 17 in use for boat building and other activities classified as industrial.

The Island lies some twenty miles by road from Beaufort, limiting its accessibility. There are approximately $8\frac{1}{2}$ miles of paved road on the Island, and another $9\frac{1}{2}$ miles of unpaved roads. Most of the unpaved roads are in good condition at the present time, but the fact that more than half of the roads on Harker's Island are unpaved may prove to be a problem if additional development takes place. The Island is congested in many areas, a result of haphazard development. Recent subdivisions

have complied with County Subdivision Regulations, but older areas often have several residential (or mixed) structures on one lot, inadequate access, and lack adequate sewage disposal. A central water system is in place, but there is no central sewer. New developments at moderate to high densities should generally be required to provide centralized package sewer treatment in accordance with the County's Subdivision Regulations and State health standards.

Additional peak seasonal population, particularly of a "pass-through" nature, will be created by the development of Shackleford, Cape Lookout and the Core Banks as a National Park. Current plans indicate 100 acres on the eastern end of Harker's Island, including new administrative offices for the Seashore Park, will be used to accommodate tourists ferrying to the Park. Additional ferry points are located at Davis, Atlantic and Ocracoke, but given Harker's Island's proximity to both Beaufort and the most desirable parts of the National Seashore, ferry traffic should be heaviest there. Some accommodations (i.e., motels and marinas) already exist to accommodate such traffic, and more motel, camping and restaurant services can be expected.

Shackelford Bank is a remote island in the Outer Banks chain which has been relatively undisturbed during the past 70 years. The Bank is approximately 9 miles long and up to one half a mile wide. Its orientation is east-west, making it perpendicular to prevailing winds and providing an interesting contrast to the other barrier islands of the Outer Banks.

The eastern two thirds of the Island resembles barrier islands to the north: low dunes near the ocean, grasslands, low shrub trees and an

extensive salt marsh. In contrast, the western end of Shackleford features dunes 30 to 40 feet high and an extensive and well developed maritime forest.

Once the National Park Service finalizes acquisition, the Bank will be classified as wilderness. The primary land use is beach recreation on both the ocean and sound sides, fishing, camping, hiking and nature study. Hunting and fishing are also authorized in designated areas. The Island is used extensively as an outdoor laboratory and education grounds by universities and research facilities for the study of barrier island ecology.

Cape Lookout is a triangular barrier spit roughly three square miles in area. It is the site of the historic Cape Lookout Lighthouse. On the Island's western side, National Park Service and ferryboat docks, water and comfort stations and a visitor contact station have been established.

Brown Island is a relatively undisturbed natural area of about 600 acres located in the Straits just northeast of Harker's Island. It can only be reached by boat. There are evidences of several old homesites on the dune ridges, and there is at least one new homesite on the northeast section of the Island.

According to the Natural Heritage Survey of Carteret County, the Island has regional significance as a natural area. High ground areas are 10' to 15' in elevation and consist of narrow relict dunes separated by marshes. Some lots are currently for sale. The survey indicated that the only area on the Island suitable for development would be the north ridge, which could accept low density development.

6. Harlowe Township lies between Beaufort and Newport Townships, and is separated from Morehead Township to the south by the Newport River. This 26 square mile Township has basically been an agricultural and fishing community. Recent trends, especially along the Intra-coastal Waterway (Adams Creek Canal) has been the conversion of agricultural lands and woodlands into residential subdivisions. Evidence of this is the recent development of Sea Gate Subdivision along the Waterway, about one mile south of the Craven County line. A 300 acre area north of this Subdivision, called Sea Gate Woods, is considered to be a hardwood natural area of regional significance (N.C. Natural Heritage Survey). The wood, which averages 8 to 13' in elevation, is not a floodplain or swamp forest, which makes it unique in low-lying Carteret County. Unfortunately, that fact (and its proximity to the Waterway and existing residential development) makes it a desirable location for future single family residential development. The wood provides habitat for several rare bird species. The land is presently in the hands of two owners: 244 acres are in the hands of a private individual and the remaining 50 acres is owned by International Paper, Inc. The Corporation has recently installed drainage canals in its tract in support of clearcutting operations on other tracts. This activity may affect areas which are not cut.

Currently, there are roughly 2,050 acres of agricultural land in the Township and nearly 600 acres of residential lands. Business, trade and services account for roughly 4 acres. The remaining acreage in the Township is largely forested.

7. The Marshallberg Township is the smallest township in Carteret County, containing only 3,480 acres (6 square miles). It lies to the

northeast of Harker's Island and is roughly 20 miles east of Beaufort via US 70. The Township is composed mainly of the community of Marshallberg, which faces The Straits and Core Sound. This is a fishing and agricultural community, which, like other eastern areas of Carteret County, reflects a rural community lifestyle. Boat works, boat manufacturing, marinas and fish houses provide an economic base for Marshallberg. The Marshallberg community is fairly densely settled although it lacks public water and sewer services. Additional growth may create problems in the future. Also, there are a few rights of way which are not fully developed that may cause transportation problems in the future.

8. Merrimon Township, which lies in north central Carteret County, is bisected by the South River. It is bounded to the west by Adams Creek and the Craven County line, and by Turnagain Bay to the east (Davis Township). It is bounded to the south by Straits Township. In size, it is fourth largest township in the County, and is one of the least densely settled.

The area has traditionally been a fishing and farming area. Much of the land is owned by large timber companies. There are only minimal commercial uses in the Township at this time.

At least one subdivision has begun development in the Township, Sportsman's Village Subdivision, a retirement community. The major development concern is the adequacy of transportation access.

A major portion of the Open Grounds Farm operation lies in Merrimon Township, which makes it the predominant land use here. Open Grounds has been a good neighbor to Carteret County, cooperating with an effort which used Open Grounds' impact on the South River as a case study in determining the effect of agricultural runoff on estuarine systems. The study determined that lack of productivity in the South River was in

part due to pre-existing factors not associated with agricultural runoff. However, despite modern farming practices on Open Grounds Farm, which include careful, controlled applications of fertilizers, green strips along ditches and other soil conservation practices, the results of farm development have altered water quality in the upper half of the South River.¹

Most of the erosion along the Intracoastal Waterway appears to stem from boat traffic along the Waterway. This threatens development along the shoreline, especially over the long term.

9. Morehead Township, the most populous of the County's fifteen townships, is bounded to the east and north by the Newport River, to the west by Newport Township, and encompasses Bogue Sound and the Bogue Banks Towns of Atlantic Beach, Pine Knoll Shores and Indian Beach to the south.

The mainland portion of the Township is bisected by US 70, which is an intensively urbanized corridor from its intersection with NC 24 into Morehead City. The highway then takes on a heavily industrial character on the far side of the Town's business district, at the State Ports Authority complex. US 70 is Carteret County's most important link with the Piedmont, which contains the State's most populated areas, and is vital to the County's tourism, commercial fishing, and port related industries. It is the location of most commercial activity in the County including Morehead Plaza, and is the location of Carteret General Hospital, Carteret Technical Institute, the Civic Center and the Division of Marine Fisheries.

¹William W. Kirby-Smith and Richard T. Barber, The Water Quality Ramifications in Estuaries of Converting Forest to Intensive Agriculture, Water Resources Research Institute, December 1979, p. 38.

Although a great deal of the mainland area of the Township away from US 70 is rural in character, including portions of the Croatan National Forest, significant subdivision development is taking place within Morehead City's extraterritorial jurisdiction and along Bogue Sound south of NC 24. In addition to its commitment to upgrade existing sewage facilities in the Town, Morehead City passed a bond referendum in early 1982 to extend water and sewer services to newly annexed residential areas. This increases the likelihood that developing areas located near Morehead City will eventually have urban services. However, it seems unlikely that it would be feasible to extend such services to development along Bogue Sound. There are at least eighteen platted subdivisions in the extraterritorial area. Single family developments include Spooner's Creek and Mitchell Village; multi-family developments include Brandywine Bay, Morehead Bluffs and Cannon Townhouses. There are also over 2000 rural dwellings in the Township.

Residential development will continue to occur along Bogue Sound, the Crab Point Road area, and the Newport River where lands are suitable for septic tanks. These areas offer the benefits of water access in a rural setting which, at the same time, are located near urban services. However, since public provision of sewerage services is not feasible in the near-term, acceptable levels of density and acceptable forms of sewage disposal need to be determined for these areas.

The uncontrolled proliferation of commercial activity along U.S 70 poses a severe traffic safety problem. Because of the linear nature of most land forms in the most developed parts of the County (particularly in Morehead Township), and the lack of more than a few major thoroughfares, commercial development occurs along these major thoroughfares.

Because of the heavy traffic load of the US 70 corridor, especially at peak season, the commercialization of this road is extremely intense. The safety hazards of intense land uses, primarily on small parcels, stem from the number of curb cuts used to serve each parcel. If the number of curb cuts could be substantially curtailed in now developing areas of US 70, pressures on the highway, which is in danger of becoming an extended bottleneck (and thus diminishing the area's attractiveness for economic expansion), would be eased. This could be accomplished, in part, by the establishment of access standards along major thoroughfares such as US 70 and NC 24.

The Bogue Banks portion of the Township, which extends from Fort Macon to Indian Beach, is the locale of the most intensive residential development in Carteret County. Almost all of this activity is taking place within the municipalities of Atlantic Beach, Pine Knoll Shores and Indian Beach. Pine Knoll Shores is being developed in accordance with a masterplan which shows the community eventually reaching a "build out" figure of some 3,367 dwelling units on its 1,430 acres, for an average density of slightly more than two dwellings per acre.¹ Atlantic Beach, which is encouraging multi-family development in an effort to reach a "threshold" which would make a publicly financed sewer system feasible, has witnessed the construction of over 1,700 condominium units since its multi-family ordinance was adopted in 1975, most of them since 1980. Indian Beach, a municipality of roughly 500 acres with an average density on developed land of 11 dwelling units per acre, has recently received development plans for three large multi-family projects, each averaging over 20 units per acre.

¹Pine Knoll Shores Land Use Plan

There are two unincorporated areas on the Banks which do not fall within any municipal extraterritorial jurisdiction. The first is an area about 2,000 feet in width which lies between the Atlantic Beach jurisdiction and that of Pine Knoll Shores. There is presently no development along the oceanfront side; a few commercial establishments dot the north side of the highway. It is probable that Atlantic Beach will eventually annex the area. The Town of Pine Knoll Shores has already officially indicated that it does not wish to annex the land.

Salter Path is a long established unincorporated community consisting primarily of single family residences and mobile homes, located for the most part on individually owned lots. There are also a number of commercial establishments, primarily restaurants. Salter Path lies between the two "pieces" of Indian Beach, but is not part of that municipality. Land ownership patterns and the lack of undeveloped land should discourage massive high density development such as that experienced in Indian Beach for the near future. The County has no plans to provide either public water or sewer services there.

10. Newport Township is bounded to the east by Harlowe Township, to the south by Morehead Township, and to the west by White Oak Township. It is the second largest township in terms of area (75 square miles), and its predominant land use is the Croatan National Forest. Other land uses are limited to the cities of Newport and Holly Springs, the Masontown community, scattered residential development along US 70 and Nine Foot Road, and agricultural communities along Deep Creek and Little Deep Creek. At least ninety percent of the Township's area is forested.

Despite the predominance of the National Forest, the Township's population and housing counts nearly doubled from 1970 to 1980. These increases are attributable to Newport's growth as a military bedroom community for the Marine Corps Air Station fifteen miles away in Havelock. New development in Newport is currently limited to the area west of the Town along Highway 70, but the Town is expected to expand its sewer system in the near future. Because of the presence of the National Forest, growth will continue to concentrate in the Newport area. Land development problems include small scattered mobile home parks, the mixing of commercial and residential areas, and the proximity of local industries to residential areas.

Significant natural areas in the Township include the Masontown pocosin, Union Point pocosin, and Walker's Mill Pond.

Masontown pocosin lies two miles northwest of Newport and contains much of the area above Newport between the Atlantic and East Carolina Railroad (just west of US 70) and Lake Road (SR 1125). The 1200-acre tract, all of which lies in the Croatan National Forest, is notable for being a large, low pocosin area.

The Union Point pocosin, located about 1.5 miles northeast of Newport, contains some 6000 acres and is the second largest contiguous tract of pocosin in the County. It lies entirely within the Croatan National Forest. There are no significant human encroachments within the tract.

The Walker's Mill Pond natural area lies about three miles east of Newport and contains Walker's Mill Pond and associated swamp forests and floodplains. The pond apparently was created by damming Black Creek at Mill Creek Road, which bisects the natural area. The privately owned pond and swamp forest is being used as a hunting and fishing club.

11. Sea Level Township lies between the Stacy and Atlantic Townships in northeastern Carteret County, with Long and West Bays at its northern end. (A portion of the Cedar Island marshes lies between the two Bays.) The Township is largely undeveloped, with most of its inhabitants living in the Sea Level community. There is a hospital located in the Township, and Sailor's Snug Harbor, a retirement community for mariners expected to house 101 residents, has been established here.

Sea Level is basically a fishing community and lacks public services. It should attract additional retirement and second home development, despite the area's limitations for septic tanks.

12. Smyrna Township cuts a narrow swath between the Straits and Davis Townships below Merrimon Township, and extends to the Core Banks. The major part of the 8,000 acre Smyrna Farm has been established here. The Smyrna community is basically a fishing area. Boat building, fishing and a small textile industry and support services provide its economic base. Future residential growth will be curtailed by the new flood insurance standards and the absence of central sewer and water.

13. Stacy Township lies between the Davis and Sea Level Townships. The majority of its land area lies in the Open Grounds holdings and/or was formerly pocosin. The Stacy and Masontown communities lie along US 70 along Core Sound. There are some small farm tracts in this area as well. The communities are largely supported by fishing and farming activities. Suitable areas for new residential development are very limited due to the lowness of the area and its flooding potential.

14. Straits Township is a large (31 square miles), rural township bordered to the north by Merrimon Township, to the east by Smyrna Township, to the south by the Harker's Island area, and to the west by

the North River and Beaufort Township. Its year round population was the only one to decrease since 1970; however, it has shown signs of growth in the past two years.

Major timber companies and the Open Grounds Farm own much of the land in the Township. The Bettie, Straits, Gloucester and Otway communities are also located here. Because of the areas' proximity to waterways and the Harker's Island to Cape Lookout ferry facility, additional retirement/residential development can be anticipated in the southern half of the Township.

This area contains the North River marshes, which are significant saltwater nursery areas.

15. White Oak Township is the largest inland area of all Carteret County townships, consisting of 89 square miles, including the western portion of Bogue Banks. It is bounded by Jones and Craven Counties to the north, the White Oak River to the west, and Newport Township to the east. Almost all of the mainland area above NC 24 and east of NC 58 is in the Croatan National Forest. There are a number of significant natural areas in the Township, including a portion of the Croatan Pocosins, the Millis Road Natural Area, the Patsy Pond Natural Area, Hadnot Creek, Hadnot Creek Ponds and Longleaf Pine Woodlands, Pringle Road Carolina Bays, and Wildberry Woods.

The Croatan Pocosins are composed of about 30,000 acres of pocosin wetlands lying in the Croatan National Forest in Jones, Craven and Carteret Counties. Only 11,000 of these acres actually lie in Carteret County. This area has been proposed by the USFS as a Wilderness-RARE II area. This pocosin lies south of the Craven County line and is believed to contain well-developed peat deposits. Acceptance of the pocosin into

the RARE II designation would make it part of the National Wilderness System. If the area is not so designated, it may come under increasing pressure for conversion into commercially productive activities. The Natural Heritage Program has recommended that a management plan be developed for the entire Croatan Pocosin complex, including the Carteret County portion.

The Millis Road Longleaf Pine Savannah and Pocosin lies in the Croatan Forest and is bounded by Millis Road to the north, on the east and southeast by Peak Swamp, and to the west by Millis Creek. The 300-acre area is considered highly significant by the Natural Heritage Program because of its unique plant communities and geological formation.

The Patsy Pond Natural Area is a 70-acre area which lies just north of NC 24 west of Broad Creek. It consists of a series of naturally impounded ponds in an old beach ridge system. It contains a unique assemblage of plants and several endangered and threatened species. Its accessibility makes it ideal for educational purposes.

Hadnot Creek, a tributary of the White Oak River, crosses NC 58 about 3 miles south of Kuhns, near Hadnot Road. Currently, the Creek is in a natural and relatively undisturbed state. Hunting and fishing are the primary activities along this tributary. Since most of the area is owned by a lumber company, there is potential for extensive logging in the future. The southwest section and Creek mouth, in private ownership, have been registered as a protected Natural Heritage Area. The northeast section of the creek is part of the Croatan National Forest.

The Hadnot Creek Ponds and Longleaf Pine Woodlands lie east of Hadnot Road in the Croatan Forest, covering 210 acres. Considered to be

of medium significance by the Natural Heritage Program, the area consists of freshwater ponds and longleaf pine woodland.

A group of Carolina Bays lie near the junction of Pringle Road and Millis Road in the Croatan National Forest. Two of these, dubbed Carolina Bay "A" and Carolina Bay "B", are considered to be especially unique. They are located near other natural complexes in the township and, because they are part of the Croatan Forest, are likely candidates for preservation. Although Carolina Bays are not now rare in Carteret County, they are increasingly being destroyed or altered by human activities, so that relatively unaltered examples will probably be rare in a few years.

Wildberry Woods is a protected Natural Heritage Area adjacent to the Patsy Pond area near Broad Creek, with a southern boundary along NC 24.

Because of the presence of the Croatan National Forest, residential development on the mainland is largely limited to two areas: along NC 24 and Bogue Sound and along NC 58 and the White Oak River. The Town of Cape Carteret and the communities of Cedar Point, Bogue, Ocean and Broad Creek are located along NC 24, while the Bucks Corner and Peletier Communities can be found along NC 58. This area contains some of the most attractive land in Carteret County, including many high ground and waterfront areas. Its potential for future residential growth is high, despite the lack of central water and sewer services. Private provision of at least the minimum level of community services necessary to meet health standards is likely to accompany new residential development.

Bogue Field (operated by Cherry Point Air Station) poses a land compatibility problem, particularly as residential growth in the area intensifies. Appropriate land use regulations around the Field and proper coordination with the Marine Corps are needed in this area.

The Bogue Banks portion of the Township is composed entirely of the Town of Emerald Isle, which is eleven miles long, and to date, is the least densely settled of the Bogue Banks communities. Large areas are yet to be developed here as well. The Town recently completed a study to evaluate the feasibility of developing a central sewerage system using a combination of private and public resources, and has set a maximum density limit of eight dwelling units to the acre for new developments.

SECTION 1.3.3 SIGNIFICANT LAND USE COMPATIBILITY PROBLEMS

The most significant land use compatibility problems in the County have to do with man-made impacts on natural systems, rather than man-made impacts on other man-made uses. Large scale agriculture and timbering are generally exempt from State and local regulation, yet their land altering and drainage impacts can be significant, particularly in their effect on adjacent natural areas and estuarine waters. (An example of this, on a smaller scale, would be the drainage activity carried out in the Sea Gate Woods natural area.) The impacts of clear-cutting and drainage are best addressed by performance standards specifically designed to address these activities.

The major man-made conflict in Carteret County has to do with continuing residential growth in close proximity to existing military airfields and the Beaufort-Morehead Airport. The most intense instance

of this is near Bogue Airfield. White Oak Township will be one of Carteret County's prime areas for growth in the next ten years, both along the mainland and at Emerald Isle. Both areas are vulnerable to noise and the threat of crashes. (For further discussion, see Military Activity policy.)

Another area of incompatibility is the encroachment of commercial uses along US 70 northwest into lands which are now rural or residential. Conversely, residential uses are appearing in an area zoned for industrial use along NC 101 north of Beaufort. A reevaluation of current zoning should be considered for both areas.

A final type of land use conflict involves the potential for residential encroachment on fragile and natural areas. Two examples would be the possible development of new residences on Brown's Island and the Cedar Island Barrier (adjacent to the Wildlife Refuge). Because the provision of community services cannot be expected in such areas, and because of their proximity to fragile areas, the intensity of any development should be very low.

SECTION 1.3.4 MAJOR PROBLEMS RESULTING FROM UNPLANNED DEVELOPMENT

Most of the problems which are a result of unplanned development in Carteret County involve the provision (or lack thereof) of services generally considered to be in the public realm; right-of-way and street development, community water, and central sewer. Because most of the unincorporated residential communities in the County are quite small and substantially isolated from urban centers, provision of even minimal public utilities is difficult from a financial standpoint. But because many of these communities are attractive to retirement and second home

development, growth will continue to occur. In the downeast communities, even a modest increase in existing densities may endanger local water supplies. New developments in all areas, from small subdivisions on up to planned unit developments, should be encouraged to provide central water and, where feasible, central or package sewage treatment facilities in order to reduce the threat to local drinking water, as well as estuarine water quality.

Piecemeal site development and an extensive amount of unpaved roads leave Harker's Island unprepared for the expected impacts of the expanded Harker's Island to Cape Lookout Ferry Service. However, new developments are now required to meet State road construction standards per the County's Subdivision Regulations, and required to tie into the community water system or provide an alternative source of community water. Where feasible, package or central sewage plants should be required for more intense residential development. Site design standards for new commercial activities (particularly along the main route to the ferry) should be considered, providing for adequate building setbacks from the right-of-way line (fifty feet is a good standard); limited curb cuts, and buffering where adjacent to residential uses.

U.S. 70 west of Morehead City is increasingly under pressure as the main corridor between the Piedmont and the State Ports Authority Terminal and Bogue Bank beaches, and as the central commercial resource to support these activities. The corridor also carries the rail line into the port, which limits the design of left turn areas. The safety hazards along such a corridor stem primarily from the number of curb cuts used to serve the many small parcels along the route. If the number of curb cuts could be curtailed along now developing portions of

US 70, pressures on the highway would be eased. This can be accomplished by limiting each parcel to only one curb cut, requiring access design plans for any subdivision of commercial land, and limiting access points for commercial subdivisions to one curb cut per every 500 feet of road frontage. Standards such as these, plus a 50-foot setback from the highway right of way, might also be applied along NC 24 and NC 58, which are beginning to carry substantial amounts of traffic as well.

Traffic backups resulting from an aged and inadequate bridge linking the Morehead City area to Bogue Banks should be somewhat ameliorated by a scheduled replacement bridge. NCDOT has conducted a needs and feasibility study for the construction of a third bridge to link the Banks to the mainland. A tentative bridge site is being studied.

SECTION 1.3.5 AREAS LIKELY TO EXPERIENCE MAJOR LAND USE CHANGES

Areas most likely to experience dramatic land use changes in the next ten years are the Bogue Banks communities. Atlantic Beach and Indian Beach are likely to become densely settled. Pine Knoll Shores, a planned community, may reach its planned "build out" threshold in the ensuing decade. Emerald Isle should witness the development of much of its undeveloped soundside acreage.

A secondary effect will be increasing development in and around the Beaufort-Morehead area, and in unincorporated areas of the County, particularly along Bogue Sound and the White Oak River. These waterfront areas to the west and south of NC 58 and NC 24 lend themselves to the planned unit development concept. An advantage of this type of development is that community services (internal streets, central water and sewer, security and often solid waste collection) are privately

provided, thus relieving the County of the financial burden of providing these services. In areas where it is unfeasible to provide public sewer and water services, private provision of such services for PUD's should be strongly encouraged or required. Package sewage treatment plants are becoming increasingly popular. Because they are "left" to homeowners associations for maintenance, the County should consider establishing standards to ensure the accountability of such groups to manage these systems according to State standards.

If an offshore oil discovery is made off the coast of North Carolina, the Morehead City-Beaufort area may experience a sudden, dramatic leap in activity such as has been witnessed in once small Louisiana and Texas cities which saw their populations increase ten-fold. Public awareness should be fostered, and an on-going task force should possibly be established, in order that the County and its municipalities may react quickly in the event of offshore activity.

Other areas likely to experience land use changes include certain areas in eastern Carteret County in association with the development of Cape Lookout National Seashore Park. Harker's Island has been designated as the site for the administration facilities of the National Park Service. The impacts of expected growth on Harker's Island have been discussed in Section 1.3.4. However, residential growth in low-lying and easily flooded downeast areas will be sharply curtailed by Federal Flood Insurance restrictions.

A final area likely to experience change is Radio Island. This largely undeveloped spoil island, located in the center of the area's port industrial complex, is expected to attract water-related industry or military activity. The Federal Department of Defense is planning to construct a decontamination facility there in the near future.

The County Zoning Ordinance now contains a set of performance criteria developed specifically for the Island. These standards are detailed more fully in the policy section of the Plan.

SECTION 1.4

CURRENT PLANS, POLICIES AND REGULATIONS

SECTION 1.4.1 EXISTING LOCAL PLANS AND POLICIES

Carteret County initiated a land planning program in 1959 with the establishment of the Carteret County Planning Commission. This Commission helped develop the following plans and policies for the future development of the County.

I. Plans and Policies

A. 1962 Land Use Survey and Analysis

The 1962 Land Use Survey and Analysis was the first attempt at identifying the assisting land use within Carteret County. This analysis was valuable in that potential problems and past land use patterns were identified for the first time.

B. 1967 Land Development Plan

In 1967 the Carteret County Planning Board and Board of Commissioners adopted a Land Development Plan for the County. This action was the first attempt to provide an orderly plan for the future land use of Carteret County.

C. 1967 Community Facilities Plan and Public Improvements Program

This plan for the development of community facilities and public improvements reflects an inventory of existing facilities and lays out specific recommendations for community facility development based on future land uses and future populations.

D. A Plan for Parks and Recreation in Carteret County, 1974

This plan gives an overview of recreational needs for the County. It is presently being revised for the purpose of more adequately dealing with the current recreational needs and desires of the people.

E. Transportation Plan

A transportation plan was prepared for certain areas of Carteret County by the Department of Transportation in 1971. This plan has not been adopted, but a comprehensive Thoroughfare Plan based on present conditions for all of Carteret County is badly needed.

F. Regional Sewer Plan

Carteret County is divided into two regions as far as regional sewer planning is concerned. One region includes all the land east of a line running through Broad Creek on the mainland and the western boundary of Pine Knoll Shores on the west of this line. Plans for the most cost-effective method of disposing of sewage in these regions are now being formulated in compliance with Section 201 of the Federal Water Pollution Control Act.

G. 1978 CAMA Land Use Plan

While focusing on the requirements of the Coastal Act, this Plan provides a detailed accounting of the position of Carteret County in 1978.

H. Land Use Atlas, 1982

This document presents the many land uses and demographic information within the County.

I. Beach Access Plan, 1979

This Plan outlines policies and incentives for the provision of beach access facilities within the County's jurisdiction.

J. Hurricane Evacuation, Hazard Mitigation and Post Disaster Plan, 1984.

This Plan was prepared in conjunction with Beaufort, Morehead City, and the Bogue Banks municipalities.

K. Human Services Transportation Plan (in progress)

The purpose of this Plan is to assess and evaluate the feasibility of public and/or subsidized transportation based on demonstrated need in the area of Human Services.

II. Regulations

A. September 5, 1961 - Carteret County

Subdivision Regulations with Amendments; revised 1983

Subdivision regulations were adopted for the unincorporated areas of Carteret County in order to encourage development to occur in an orderly fashion, and provide for and be beneficial to the interest of future property owners and citizens of Carteret County. The County Subdivision Regulations require all proposed subdivisions of land to be presented to the Planning Commission for their review and approval before the sale and development of property can occur. The Carteret County Building Inspection Department inspects all subdivisions and the development therein to assure the plans approved by the Planning Commission are followed.

B. 1971 - Carteret County Zoning Ordinance with Amendments;
revised 1980; (major revision currently underway)

The Carteret County Zoning Ordinance was adopted in order to help facilitate the orderly development of land throughout the County. Approximately 30 percent of the County's unincorporated area that is in private ownership is zoned. The Carteret County Building Inspection Department is responsible for enforcement of the Zoning Ordinance. Any appeal of a decision made by an enforcement officer or a request for a variance from the regulation must be submitted to the County Board of Adjustment.

A request for an amendment to the Zoning Ordinance must have final approval of the Carteret County Board of Commissioners as does rezoning of property and initial zoning of property.

C. 1972 - Carteret County Mobile Home Park and Camp Park
Ordinance with Amendment; revised 1980

This Ordinance was adopted in order to facilitate the development of mobile home parks and camper parks throughout unincorporated Carteret County. Due to the resort nature of the County, it was felt that there would be a need for the orderly development of these parks.

The Carteret County Planning Commission reviews all proposed mobile home parks and camper parks site plans in order to insure that the plan complies with all County regulations. The Carteret County Building Inspection Department is responsible for inspecting the actual site to determine if the plan presented to the Carteret County Planning Commission is actually being followed.

D. 1974 - Group Housing Ordinance; revised 1981

This Ordinance was adopted in order to help provide standards for the many group housing projects that seem likely to occur in unincorporated Carteret County. The Ordinance regulates the construction of condominiums, townhouses, row houses and apartments. The Carteret County Planning Commission reviews all proposed plans and the Building Inspection Department inspects each site to assure compliance with all plans.

E. 1973 - Outer Banks Land Protection Ordinance with Amendments

The Outer Banks Land Protection Ordinance affects all development in unincorporated Bogue Banks that would require any vegetation to be disturbed. This Ordinance was adopted because of the increased pressure on the stability of Bogue Banks caused by continued land disturbing activities. The ordinance is enforced by the Building Inspections Department.

F. N.C. State Building Code, Electrical, Plumbing and Mechanical Codes

In order to facilitate safe construction standards in Carteret County, the North Carolina State Building, Electrical, Plumbing and Mechanical Codes are enforced by the Building Inspections Department.

G. Septic Tank Regulations with Amendments

Regulations governing design, construction, installation, cleaning and use of sewage disposal systems in Carteret County were adopted by the Carteret County Board of Health in 1974. These regulations are enforced by the Environmental Health Division.

H. National Flood Insurance Program

Administered at the local level by the County Building Inspections Department, this program offers protection against flood damage to property owners.

I. Carteret County Billboard Ordinance (under advisement)

This document, now being considered by County authorities, would regulate the location, size and appearance of billboards in the unincorporated area.

J. Environmental Health Regulations

Carteret County is mandated by the N.C. Department of Human Resources to enforce public health regulations relating to septic tanks, deep water wells, sewage treatment systems, illegal dumps and vector control.

K. Junkyard Ordinance (1983)

This ordinance regulates the location and screening of junkyards in Carteret County's unincorporated area.

L. CAMA Minor Permit Program

Carteret County issues permits for development meeting State regulations as defined under the Coastal Area Management Act which meet the criteria of the minor permits process.

M. 1973 - N.C. Sedimentation Pollution Control Act

The County cooperates with the State to insure that new development meets the standards of this Act which controls siltation.

N. National Fire Prevention Regulations

These federal regulations, enforced by the County Fire Marshal, enhance the safety of public buildings and many commercial establishments.

Section 1.4.2 MEANS OF ENFORCEMENT

Carteret County has employed a resident planner since 1975. This position provides direct staff support to the County Planning Commission and advice to the County Board of Commissioners and County Manager on matters of concern relating to land use. The County Planner administers the Subdivision Regulations, the Mobile Home Park and Travel Park Ordinance, the Group Housing Ordinance and Zoning Ordinance.

The County's Chief Building Inspector and Building Inspections staff enforce the provisions of the State Building, Electrical, Plumbing and Mechanical Codes. This Department also enforces all land use Ordinances and the Federal Flood Insurance Program. All Building Inspectors are cross-trained and certified in the various codes.

Enforcement of the Septic Tank Regulations and issuance of Minor CAMA Permits is provided by the Carteret County Health Department.

The County Fire Marshal enforces National Fire Prevention Regulations.

LOCAL DEVELOPMENT REGULATIONS

| AGENCY | PERMITS |
|-------------------------------|---|
| Central Permit Department | Sand Dune Permit Building Permit Electrical Permit Insulation Permit Plumbing Permit Mobile Home Park Permit Mechanical Permit RV Permit |
| Environmental Health Division | Minor CAMA Permit Septic Tank Permit |

A listing of all the relevant Federal and State regulations affecting coastal land and water resources are given in the appendix.

SECTION 1.5 CONSTRAINTS: PHYSICAL AND ENVIRONMENTAL

SECTION 1.5.1 PHYSICAL LIMITATIONS

These limitations are comprised of natural characteristics of the land and man-made characteristics that may constrain land development.

- (a) Hazard Areas - These areas experience conditions which pose physical limitations that are extremely expensive and in some cases impossible to overcome. The inability to overcome these limitations may result in severe damage to construction, were it to occur. Hazard areas include:

Excessive Erosion Areas - Areas where excessive erosion has a high probability of occurring. Ocean, sound, river, and inlet erodible areas are included in this category. Permanent construction within these areas should be limited unless stabilization along the affected reach is achieved.

Areas of the County most effected by these potential problems are basically Bogue Banks and areas along Bogue Sound. The erosion of these areas is significant due to the predicted heavy development along the ocean and sound fronts. If inadequate measures before and during construction are not taken, these areas are likely to erode away endangering property and life.

Erodible areas are important to Carteret County because of the conflict between allowing uncontrolled development and protection of the environmental amenities which make the area attractive to tourists and second home development. Limited development can be successfully accomplished if done in con-

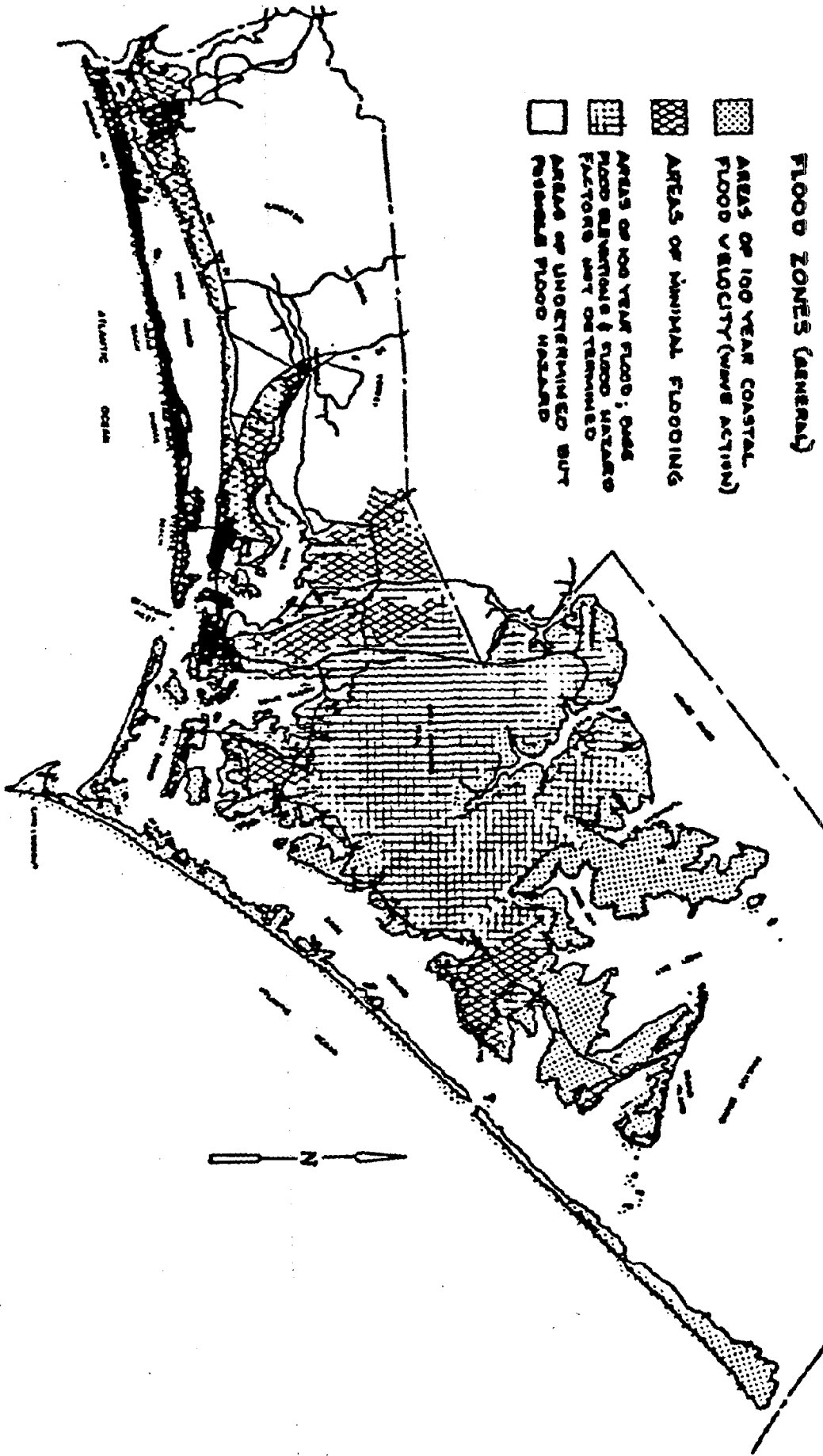
junction with nature, rather than destroying the physical amenities of the area. Uncontrolled development will eventually cause adverse economic impacts in that many tourists will no longer frequent areas of the County if no longer attractive.

These areas are also included within the Areas of Environmental Concern section of this plan. Please refer to that Section for a further description of these areas and a discussion of their environmental importance.

Flood Hazard Areas - These are areas that are adjacent to coastal sounds, estuaries, the ocean and rivers within the 100 year flood line. Improper development in these areas may unreasonably endanger life and property. A hazard area map is being developed in conjunction with the Carteret County Hurricane Evacuation, Hazard Mitigation, and Post Disaster Plan (see Map 3).

Airports - Within Carteret County there are three airports that pose some degree of hazard to the area surrounding them. These examples of man-made hazards include the Beaufort-Morehead Airport in Beaufort, Atlantic Field in the Atlantic Township, and Bogue Field on Bogue Sound near the Town of Cape Carteret. (See land use compatibility section). Improper development near these airports could cause unreasonable danger in life and property.

Storage of Flammable Liquids - These areas are another example of man-made hazards. Development near these areas could cause unreasonable danger to life and property. Storage



CARTERET COUNTY, N.C.
FLOOD HAZARD AREAS
MAP 3 Page 60

facilities for flammable liquids should be routinely monitored to detect leakage to ground water.

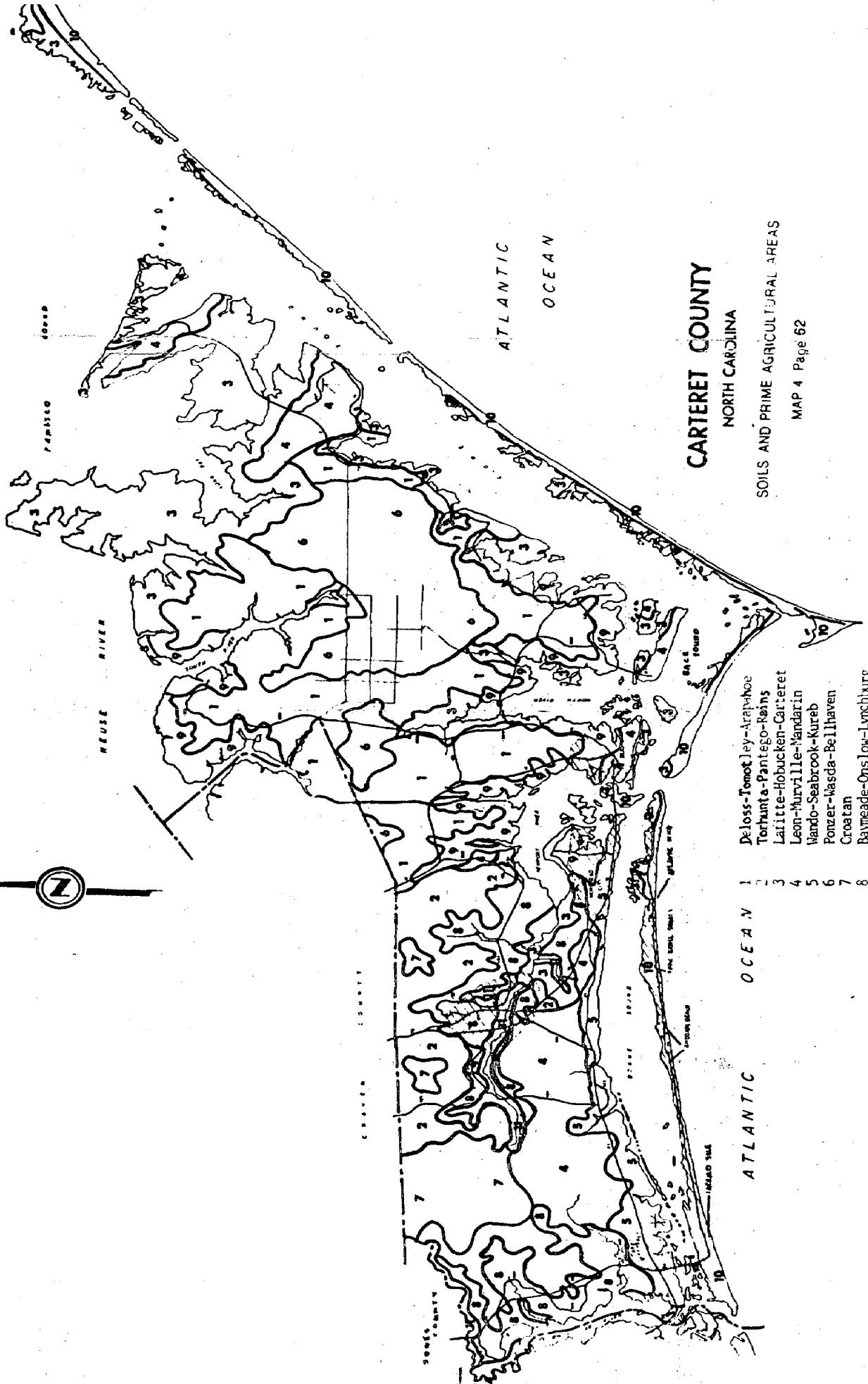
Examples in Carteret County include: Bulk oil distributors, the oil storage at the State Port, and the railroad that traverses Morehead City among many others. Development which brings large numbers of people close to these areas should be avoided. These installations are an economic asset to the County, but should not be allowed to endanger life and property.

- (b) Areas with Soil Limitations - These areas include areas of the County that may present problems to development in many ways. Some of the problems that may be caused by soil limitations include: improper drainage, areas with limitations for septic tanks, and areas that may present hazards for foundations.

The generalized soils map (Map 4) included in this Section indicates that almost all of the land area in the County should be analyzed carefully before development occurs. The manner in which the land is prepared before development, the type development that occurs, and maintenance of the land after development are all key factors to consider.

Map #4 is designed to indicate those areas of the County that have the most severe soil limitations. These areas pose severe problems to proper drainage, septic tanks and foundations.

These soils are of three basic types including Pamlico-Ponzer Association, Leon-Lynn Haven-Kureb Association and Capers-Coastal Beach-Newhan Association.



CARTERET COUNTY
NORTH CAROLINA

SOILS AND PRIME AGRICULTURAL AREAS

MAP 4 Page 62

- DeLoss-Tomotley-Arapahoe
- Torhunta-Pantego-Rains
- Laitte-Hobucken-Carteret
- Leon-Murville-Mandarin
- Mardo-Seabrook-Kureb
- Ponzer-Wasda-Bellhaven
- Croatan
- Baymeade-Onslow-Lynchburg
- Altavista-Augusta-State
- Nathan-Corolla-Beach

- 1 DeLoss-Tomotley-Arapahoe
- 2 Torhunta-Pantego-Rains
- 3 Laitte-Hobucken-Carteret
- 4 Leon-Murville-Mandarin
- 5 Mardo-Seabrook-Kureb
- 6 Ponzer-Wasda-Bellhaven
- 7 Croatan
- 8 Baymeade-Onslow-Lynchburg
- 9 Altavista-Augusta-State
- 10 Nathan-Corolla-Beach

Basically the Pamlico-Ponzer Association is composed of organic soils 16 to 40 inches deep over sandy or loose soil materials. This may certainly cause foundation problems, and may allow waste material to easily flow into the water table.

The Leon-Lynn Haven-Kureb Association is composed of basically wet sandy soils with organic hardpan subsoils. These areas pose problems to foundations, but in particular are poorly drained.

The Capers-Coastal Beach-Newhan Association includes marshlands and sand dunes. These areas may pose foundation problems as well as problems to the stability and productivity of the areas. In some of these areas drainage is good, but in some cases may not provide proper treatment needed for septic tank installations. The areas of the Banks that have been filled pose severe limitations for development with reference to septic tank installation and foundation construction. Extra care and planning must be exercised before development occurs in these areas.

A Comprehensive Soil Survey has been prepared for Carteret County. It should be noted that the applicability of soil limitations mentioned in this Section are subject to the type of development, the preparation of the land, and the maintenance of the land (e.g. maintaining ditches)

Without proper emphasis on the soil limitations of the County, many hazardous results may occur. The water table may become polluted, surface water may become polluted, and private property may become damaged. The use of central sewage

facilities in areas with major soil limitations would address some problems, but not all problems. Providing for subdivision regulations that require continued maintenance of ditches in subdivisions and soliciting professional advice from the Carteret Soil and Water Conservation District concerning drainage within subdivisions are other methods of approaching this issue. Some types of development may never be suitable for some of these areas.

- (c) Source of Water Supply - The following groundwater report for Carteret County was issued by the N.C. Department of Natural Resources and Community Development.

Geology

Carteret County is underlaid by approximately 2,500 to 5,500 feet of sediments, ranging in age from Cretaceous to the present. These sediments are composed of interbedded sands, clays, and limestones. Only the sediment of Eocene Age or younger are considered to contain relatively highly mineralized water and are not usually utilized for water supply purposes.

The undifferentiated Post Miocene sediments consist of superficial fine to medium sand with interbedded clays and sandy shell ashes ranging in thickness from 25 feet in western and northwestern portions of the County to 70 feet in the northwestern portion. The Post Miocene sediments, ranging in thickness from 50 feet in the northwestern portion of the County to 200 feet in the eastern portion, dip at a rate of approximately 5 feet per mile. The sediments of Aligocene Age

are sandy shell limestone with some interbedded clays and sands common in the eastern portion of the County. These sediments, dipping to the southeast at from 5 to 10 feet per mile, range in thickness from 300 to 550 feet along their dip.

The Eocene sediments of Carteret County are of the same lithology as the Oligocene sediments and have a thickness ranging from 400 feet to 900 feet across the county. The regional dip on these Eocene sediments is approximately 10 feet per mile.

Principal Aquifers

In the Carteret County area three (3) aquifers are utilized for water supply: the shallow water table, the Yorktown Aquifer, and the Castle Hayne Aquifer.

In the Post Miocene sediments, the shallow water table is located within 10 feet of the surface in the northwestern portions of the County and within 5 feet in the coastal and low lying areas of the County. The waters from this Zone, while adequate in quantity for domestic supplies, are corrosive and usually have objectionable color, odor, and iron content. Salt water intrusion into the water table in areas along the coast and in areas adjacent to brackish water bodies is an ever present possibility.

The Yorktown and Castle Hayne Aquifers are considered together in the description due to the practice of constructing open hole wells penetrating both aquifers in Carteret County. The Yorktown Aquifer is contained within the sands, shell ashes, and limestones of the Miocene sediments, while

the Castle Hayne Aquifer is located in the limestones of Oligocene and Eocene Ages. Wells constructed in these aquifers yield from 5 to 30 gallons per minute per foot of draw-down dependent on well diameter and amount of aquifer penetrated by the open hole.

Water levels in wells penetrating the Yorktown and Castle Hayne Aquifers range from 1 foot above land surface in the north central portion of the County to approximately 10 feet below land surface in locations in the Atlantic Beach area and approximately 20 feet in the Newport area.

The quality of water from these aquifers is noted for its hardness; reported as calcium carbonate, it ranges from 200 to 350 parts per million. Waters from the wells penetrating the Yorktown in the northwestern portion of the County have iron content of up to 0.9 parts per million. Waters of high chlorides have been reported at a depth of 286 feet at the west end of Bogue Banks, at 150 feet at Fort Macon, and at 98 feet in the Cape Lookout area. While the chlorides in the other two (2) areas are in keeping with other data in the region, the report from the Fort Macon well is not substantiated by other data from wells in the Atlantic Beach area. This anomaly is probably attributable to shallow brackish water leaching into the casing; therefore, caution should be exercised in the construction of wells to the beaches to insure that brackish water from shallow sands will not enter the well or that heavy withdrawals will not allow brackish water to move up dip in these aquifers.

Groundwater is of extreme importance to Carteret County because it is the only source of water supply. The aquifer and the recharge areas must be protected. Without proper protection, the aquifers could become depleted and salt water intrusion could occur.

The Division of Health Services and other State agencies are in the process of identifying recharge areas in Eastern North Carolina. The protection of the water supply must be a coordinated effort by all eastern North Carolina counties and municipalities.

- (d) Slopes over 12 percent - In Carteret County topographic slopes of twelve percent (12%) or greater are not normally found except on the Outer Banks. Such slopes (12% or greater) are related to dune development. The mainland of Carteret County, unlike the mountain areas of North Carolina, is basically flat with the highest elevation being approximately forty-five (45) feet and gently sloping down to sea level. On Bogue Banks, Shackleford Banks, Core Banks, and Portsmouth Island topographic variations are erratic due to sand dune development. The natural conditions (wind and water) which create or destroy sand dunes present profound physical limitations. One must realize that the dunes system protects the Outer Banks. Development must fit in with the topography, and not destroy this natural protection.

SECTION 1.5.2 FRAGILE AREAS

In early 1983, the Natural Heritage Program completed its study in Carteret County, resulting in the identification and mapping of significant natural areas. While many of the areas identified lie within, or contain portions of, Areas of Environmental Concern, on the whole they are best generally described as fragile areas.

The following areas were considered to have high (national and statewide priority) significance by the Natural Heritage Program. The location of each site is indicated on the Natural Areas Map (Map 5).

- A. Portsmouth Island - Core Banks - This area is an excellent example of the many stages of barrier island development. Due to its remoteness and limited access they have been generally subject to much less alteration and manipulation by man. As a result, they serve as a good case of undisturbed barrier island. Protection Status: The area is part of the Cape Lookout National Seashore and most components will be managed as natural areas.
- B. North Bay Barrier - This is a geologically unique area. Except for the central area (near the Cedar Island Ferry) it has been relatively unaltered by humans. This is an intriguing small scale edition of a barrier island, complete with dunes, beaches maritime shrub thickets and back barrier marshes. Protection Status: The westernmost two miles of the system are protected from development by their inclusion in Cedar Island National Wildlife Refuge; the easternmost three miles are rendered inaccessible by the presence of several inlets.

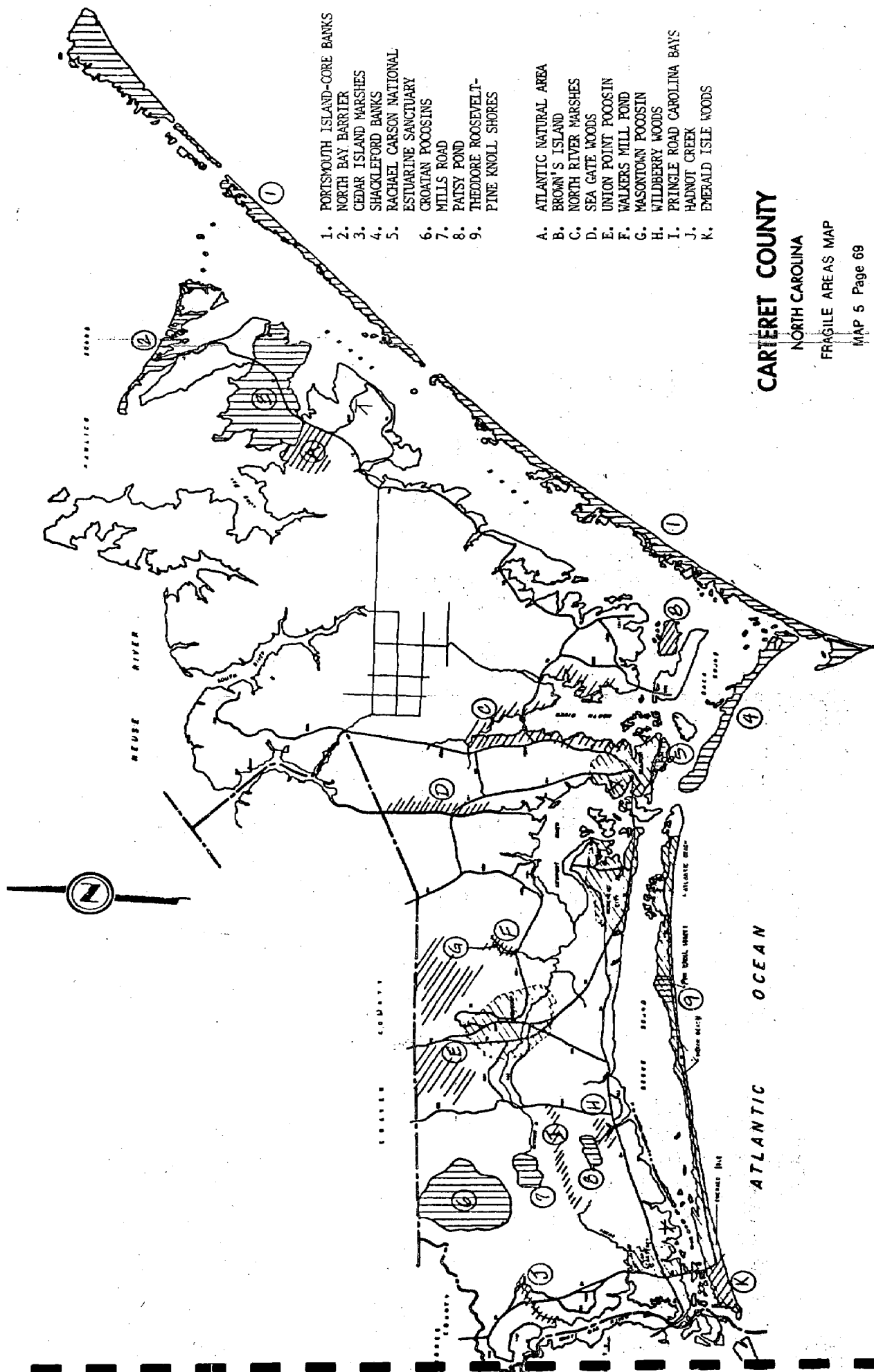
1. PORTSMOUTH ISLAND-CORE BANKS
 2. NORTH BAY BARRIER
 3. CEDAR ISLAND MARSHES
 4. SHACKLEFORD BANKS
 5. RACHAEL CARSON NATIONAL ESTUARINE SANCTUARY
 6. CROATAN POOOSINS
 7. MILLS ROAD
 8. PATSY POND
 9. THEODORE ROOSEVELT-PINE KNOLL SHORES
- A. ATLANTIC NATURAL AREA
 - B. BROWN'S ISLAND
 - C. NORTH RIVER MARSHES
 - D. SEA GATE WOODS
 - E. UNION POINT POOSIN
 - F. WALKERS MILL POND
 - G. MASONTOWN POOSIN
 - H. WILDBERRY WOODS
 - I. PRINGLE ROAD CAROLINA BAYS
 - J. HADNOT CREEK
 - K. EMERALD ISLE WOODS

CARTERET COUNTY

NORTH CAROLINA

FRAGILE AREAS MAP

MAP 5 Page 69



- C. Cedar Island Marshes - This site is one of the largest contiguous tracts of irregularly flooded salt marshes in the State. It is thought by many to have significant aesthetic value and contains one rare reptile (water snake) and several rare birds. Most notably, the area may contain the largest Black Rail population in the U.S. Protection Status: The U.S. Fish and Wildlife Service administers some 6,000 acres of the 7,000 acre marsh. Currently, the Service is considering the impoundment of about 2,000 acres northwest of NC 12 for waterfowl habitat. The entire natural area is an AEC.
- D. Shackleford Banks - Shackleford Banks is a remote island in the Outer Banks chain which, unlike other barrier islands, has remained relatively undisturbed by people during the last 70 years. The Banks is approximately 9 miles long varying in width up to one-half mile. Its east-west orientation situates it perpendicular to the prevailing winds, thereby resulting in unique physiographic characteristics which provide an interesting contrast to the other barrier islands of the Outer Banks. Protection Status: Under NPS administration, all of Shackleford is proposed as a "natural zone" and will be protected as a wilderness with minimal visitor facilities.
- E. Rachel Carson National Estuarine Sanctuary - The Rachel Carson site is 3.5 miles long and one mile wide and consists of islands, marshes, intertidal flats and submerged areas. It is representative of a well-mixed lagoon-type estuary that is strongly influenced by inlet processes and tides. The rich mix of communities provides diverse habitats for a large

variety of plants and animals, making the site particularly valuable for research and education. Protection Status: The complex has been acquired by the State, which has prepared a natural area management plan for the Sanctuary.

- F. Croatan Pocosins - This site is in the Croatan National Forest and contains one of the best examples in North Carolina of the low shrub pocosin ecosystem. The sites provide habitat for several plants or animals listed as endangered or threatened nationally and within the State of North Carolina. Protection Status: Wholly owned by the U.S. Government, this area has been proposed by the U.S. Forest Service as a Wilderness - RARE II area, which would make it part of the National Wilderness System.
- G. Millis Road Longleaf Pine Savannah Natural Area - This site is entirely owned by the U.S. Forest Service. It is believed to be one of the best examples of Savannah Pine in the State. It is also the habitat for the Red-Cockaded Woodpecker (Federal endangered species), and several threatened plant and animal species. Protection Status: Public land, not recognized as a natural area. The N.C. Natural Heritage Program recommended maintenance of the present vegetational structure and the possible establishment of the area by the USFS as a "red-cockaded woodpecker management area" or "savannah management area".
- H. Patsy Pond Natural Area - This area is also under the ownership of the U.S. Forest Service. The area is a series of naturally impounded ponds in the Outer Coastal Plain. It is

particularly noteworthy for its excellent examples of plant communities. Protection Status: Not recognized as a natural area. The Natural Heritage Program recommended management for endangered and threatened species preservation, for unique community preservation, and for scientific and educational purposes.

- I. Theodore Roosevelt Natural Area - This area consists of approximately 450 acres of largely undeveloped land on Bogue Banks. It is within the corporate limits of the Town of Pine Knoll Shores. Within the Area is the N.C. Marine Resources Center. It is a significant example of an undisturbed relict beach area and a maritime forest and swamp forest. Protection Status: Roughly 265 acres has been set aside to remain in a natural state and is administered by the Division of State Parks.

The areas listed below were considered to be of medium, or regional, significance and are indicated on the Natural Areas Map. For additional information on these areas, refer to the township descriptions.

- a. Atlantic Natural Area (Atlantic Township). Protection Status: 100% privately owned, not an AEC. The Natural Heritage Survey suggested U.S. Fish and Wildlife buy the northwest portion of the tract, which is adjacent to Cedar Island Wildlife Refuge.
- b. Brown's Island (Harker's Island Township). Protection Status: Currently classified conservation, privately owned. Some low density residential development can be anticipated.

- c. North River Marshes - (Beaufort/Straits Townships). Protection Status: Classified as an AEC (coastal wetlands); private ownership.
- d. Sea Gate Woods (Harlowe Township). Protection Status: None. Privately owned.
- e. Union Point Pocosin (Newport Township). Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.
- f. Walkers Mill Pond (Newport Township). Protection Status: privately owned; current use limited to hunting and fishing.
- g. Masontown Pocosin (Newport Township). Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.
- h. Wildberry Woods (White Oak Township). Protection Status: Registered N.C. Natural Heritage area.
- i. Pringle Road Carolina Bays (White Oak Township). Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.
- j. Hadnot Creek (White Oak Township). Protection Status: Privately owned southwest section and Creek mouth registered as a N.C. Natural Heritage area. Northeast section is part of Croatan National Forest and is not recognized as a natural area. Remaining 400 acres owned by a lumber company.
- k. Emerald Isle Woods (Town of Emerald Isle). Protection Status: In 1980 the Town adopted and began enforcing a Dune and Vegetation Protection Ordinance. This ordinance requires that site development maintain a minimum of 45% of all residentially zoned areas in natural vegetation.

SECTION 1.5.3 AREAS WITH RESOURCE POTENTIAL

These areas are valuable to Carteret County and add to the potential of the County and State. For this reason they should be protected and development should not infringe upon the value of these areas.

The areas with resource potential include productive and unique agricultural land that consists of prime agricultural soils, potentially valuable agricultural lands with moderate conservation efforts, and other productive or unique agricultural lands.

- (a) Productive and unique agriculture lands. Productive farmland is generally defined as land suited and available for producing food, forage, fiber and oilseed crops; examples of productive farmland are cropland, pastureland, rangeland, forestland and other land that is not urban built-up or water. Productive farmland has the soil quality, growing season and moisture supply needed to economically produce significant and sustained crop yield when treated and managed according to modern farming methods, including water management. Unique farmland, in addition to other productive farmland is land that is suited and available for the production of specific high-value food and fiber crops.

Productive farmland areas can be identified and located by interpreting modern detailed soil maps published by agencies such as the USDA Soil Conservation Service. Carteret County has a detailed Soils Survey (completed in April, 1982).

The map showing soil associations is useful to persons who want a general idea of the soils of an area, or who want to compare different parts of a county or the region, or who

want to know the locations of large tracts that are suitable for certain kinds of land use. It is not a suitable map for the planning or the management of a specific farm or fields because the soils in any one association ordinarily differ in slope, drainage, depth, and other characteristics that could affect their management.

Each soil association outlined on a general map is meant for general planning rather than a basis for decisions on the use of a specific tract. Soil associations may be designated into soil management groups ranging from soils with slight limitations to severe limitations if used as agricultural farmland.

Table 11

AGRICULTURAL FARMLANDSOIL ASSOCIATION AND MANAGEMENT LIMITATION RATE

Legend for Coastal Area Soil Association Map

| <u>Soil Assoc. No.</u> | <u>Soil Association</u> | <u>Limitation Rate</u> |
|----------------------------|--|----------------------------|
| 1 | Conetoe - Dragston - Wando | 3 |
| 2 | Lenoir - Bladen - Craven | 6 |
| 3 | Bladen - Bayboro - Portsmouth | 6 |
| 4 | Bertie - Tomotley - Altavista | 3 |
| 5 | Roanoke - Pasquotank - Barclay | 5 |
| 6 | Hyde - Weeksville - Englehard | 5 |
| 7 | Belhaven - Ponzer - Wasda (Upland Mucks) | 7 |
| 8 | Newhan - Corolla - Duneland | 8 |
| 9 | (Tidal Marsh) | 8 |
| 10 | Dorovan - Johnston | 7 |
| 11 | Norfolk - Goldsboro - Wagram | 1 |
| 12 | Wickham - Altavista - Wahee | 3 |
| 13 | Wehadkee - Chewacla - Roanoke | 6 |
| 14 | Rains - Lynchburg | 3 |
| 15 | Murville - Seagate - Leon | 5 |
| 16 | Stallings - Woodington - Baymeade | 3 |
| 17 | Onslow - Rains - Norfolk | 3 |
| 18 | Pungo - Dare | 7 |
| 19 | Invershiel - Meggett - Grifton | 5 |
| 20 | Kenansville - Lakeland | 3 |
| 21 | Rains - Pantego - Torhunta | 4 |
| 22 | Bibb - Johnston | 6 |
| 23 | Nahunta - Grantham | 3 |
| 24 | Portsmouth - Torhunta - Lakeland | 5 |
| 25 | Kureb - Baymeade - Rimini | 2 |
| 26 | Pantego - Ponzer - Rain | 5 |
| 27 | Lynn Haven - Pamlico - Leon | 6 |
| 28 | Wrightsboro - Onslow - Kenansville | 2 |
| 29 | Kenansville - Leon - Lakeland | 3 |
| 30 | Weeksville - Pasquotank | 5 |

*1 - Slight limitation; 8 - Severe and restrictive limitations

Table 12

SOIL ASSOCIATIONS IN
CARTERET COUNTY

Limitations for Septic Tank Use

| <u>MAP INDEX CODE</u> | <u>SOIL ASSOCIATION</u> | <u>RATINGS</u> |
|---------------------------|---------------------------------|---------------------|
| MU-SE-LE | Murville - Seagate - Leon | Severe |
| RA-PA-TO | Rains - Pantego - Torhunta | Severe |
| PM-LE-KU | Pamlico - Leon - Kureb | Severe |
| CT-BO-CU | Carteret - Bohicket - Currituck | Severe |
| WD-SB-KU | Wando - Seabrook - Kureb | Moderate - Severe |
| NE-CO-DK | Newham - Corolla - Duckston | Severe |
| BE-PZ-WS | Belhaven - Ponzer - Wasda | Severe |
| AG-TL-AL | Augusta - Tomotley - Altavista | Severe |
| KN-LK | Kenansville - Lakeland | Slightly - Moderate |
| GO-RA-NR | Goldsboro - Rains - Norfolk | Severe |
| RO-CF-PO | Roanoke - Conetoe - Portsmouth | Moderate - Severe |
| BB-JO | Bibbs - Johnston | Severe |

Those areas of Carteret County which can be generally identified as productive farmlands are identified generally on Map 4. Portions of the area northeast of Smyrna are too low for productive farming activities. The area north of Beaufort between State Highway 101 and U.S. Highway 70 is also identified as productive farmland. Additionally, most of the Newport Township is in productive farmland. Many of the farms in the Newport Township are larger than the average size for the County.

The Open Grounds Farm is an example of unique agricultural lands within Carteret County. This farm contains a total of approximately 45,000 acres. As of December 31, 1982, the land within the farm was utilized in the following fashion:

| | |
|--|---------------------|
| Pasture | 12,000 acres |
| Corn | 11,000 acres |
| Beans | 10,000 acres |
| All Other, i.e., holding ponds, ditches, uncleared property | <u>12,000 acres</u> |
| | 45,000 acres |

The Smyrna Farms is another example of a large farm, and is located adjacent to Highway 70 East. Smyrna Farms has approximately 8,000 acres of cleared land. The "large farm" concept may have an important impact on all of eastern North Carolina. On the positive side, this type of farm can afford to develop types of land that small farms were unable to develop and provide an expanded economic base for the County. Potential for processing locally that which is grown locally adds to significance of farm production.

In most cases the "large farm" concept must pay particular attention to the environmental effects they may cause. This is because of the magnitude of these operations, and the fact that in many cases they develop land near environmentally sensitive areas (i.e., wetlands and estuarine waters).

(b) Potentially Valuable Mineral Sites. At the present time potential peat mining sites have been identified in Carteret County. Several studies of peat resources have been conducted. Generally, it does not appear feasible at this time to mine peat in Carteret County. (See Section on Peat Mining in the Policy portion of the document.)

(c) Publicly Owned Forest, Parks, Fish and Gamelands, and Other Non-intensive Outdoor Recreation Land. The following are included in this category: (1) Croatan National Forest, (2) Ft. Macon State Park, (3) Cape Lookout National Seashore, and (4) Cedar Island Wildlife Refuge, (5) Roosevelt Wilderness Area.

SECTION 1.6 CONSTRAINTS: CAPACITY OF COMMUNITY FACILITIES

SECTION 1.6.1 WATER AND SEWER SERVICES

At the present time, Carteret County provides neither water nor sewer service to any area. Individual wells and septic tanks are the primary methods of water supply and sewage disposal throughout most of unincorporated Carteret County. The Harker's Island Community has established a community water system. Last year, the County unsuccessfully sought CDBG funds for the establishment of a similar water system for the Merrimon community.

The Carteret County Complex 201 Plan was adopted by all participating governments with the exception of Pine Knoll Shores. Step 1, the 201 planning phase, triggered a full-fledged Environmental Impact Statement (EIS) for Bogue Banks. This study has now been completed. Its major conclusion was that a regional sewerage facility would not be economically feasible due to the capital investment costs in relation to the size of the towns to be served. The Bogue Banks municipalities and participating mainland towns are presently evaluating the results of the 201 Plan and the EIS.

The Towns of Beaufort, Morehead City and Newport supply public water and have sewage treatment facilities. The following summary is given for each of these sewer facilities:

Town of Beaufort*

The present design capacity is for .75 mgd (millions of gallons per day). The present average daily flow is approximately .30 mgd, giving a utilization rate of 40%. It is estimated that 90% of the treatment is for domestic waste, with the remaining 10% for industrial waste.

*Information supplied by the Town of Beaufort.

Morehead City*

The system's present design capacity is 1.7 mgd. Average daily flow is estimated at 1.04 mgd, with a utilization rate of approximately 60%. When prospects for implementation of the 201 Plan diminished, the Town made plans to update its own system to treat existing treatment problems. In early 1982, Morehead City passed a bond referendum to extend water and sewer services to newly annexed residential areas.

*Information supplied from Carteret County 201 Complex Plan (1979) and NRCD staff.

Town of Newport

The present design capacity of this system is .25 mgd. In order to meet NPDES requirements by 1987, the Town is attempting to upgrade its facility and expand its capacity to .4 mgd.

Town of Atlantic Beach

The Town of Atlantic Beach has revised its zoning ordinance to encourage higher density development in order to achieve a "threshold" to adequately justify a publicly financed local sewer system. The Town is also offering incentives for private developers to use centralized sewer systems or package treatment plants in conjunction with planned unit developments in the hopes that the Town may be able to consolidate the various systems into one centralized entity eventually.

Town of Pine Knoll Shores

Pine Knoll Shores, a planned community, anticipates no need for a centralized sewer system. Multi-family developments will be served by package treatment plants.

Town of Emerald Isle

A study completed in the Spring of 1983 for the Town of Emerald Isle by Von Oesen & Associates recommended that the Town pursue the phased development of a central sewage system, since "build out" capacity in the Town will likely yield a sewage treatment load between 2.79 mgd and 4.78 mgd.

Town of Indian Beach

The Town of Indian Beach is experiencing intense development, with some new condominium projects expected to exceed twenty units per acre. These developments will be served by package treatment plants.

Town of Cape Carteret

The Town of Cape Carteret is a single family, residential community, served by individual septic and well systems. A study on a Township-wide water system is in an early stage of development.

Unincorporated County

Up to the present, multi-family developments in unincorporated Carteret County have located in or near the planning jurisdictions of Carteret County municipalities. The areas that are likely to attract multi-family development in unincorporated Carteret County are either linear (along Bogue Sound and the White Oak River) or isolated from existing services (small communities on Core Sound, and the unincorporated "pockets" on Bogue Banks). The financial feasibility of the County supplying central sewer to these areas is low.

SECTION 1.6.2 TRANSPORTATION SYSTEMS

Transportation of goods and services and the movement of people is a vital part of any County's economy. This is particularly true in Carteret County by virtue of its seaport and tourism. The four major

modes of transportation (water, rail, air and highway) all play a role in the County's development patterns.

The State Port at Morehead City and the Intra-Coastal Waterway provide inexpensive bulk goods movement to and through Carteret County; the Railroad connects the Port with major inland industrial centers including regional military facilities; the County Airport offers private air service to the region; and U.S. 70, N.C. 58, N.C. 101 and N.C. 24 are major highway links to inland centers.

There are several specific transportation related issues in the County. These are:

- (1) Replacement Bridge and Third Bogue Banks Bridge - Bogue Banks is served by two (2) bridges from the mainland; a highrise on the western end to Emerald Isle and a low drawbridge from Morehead City to Atlantic Beach. In recent years traffic congestion on the Morehead City-Atlantic Beach Bridge has nearly reached the intolerable stage during tourist season. Delays and traffic backups of 30-45 minutes are common in the Summer. Safety officials, the tourism industry and the general public are concerned that the congestion is becoming dangerous and a potential negative influence on the County's tourism economy. A replacement bridge is scheduled for construction in the vicinity of the Morehead City - Atlantic Beach Bridge. NCDOT has completed studying the necessity of a third bridge, which would be located somewhere between the two existing bridges. If the Morehead City Bridge was rendered unusable prior to the completion of the third bridge, undue pressure would be placed on the NC 58 Bridge at Emerald Isle.

- (2) Navigable Waters Maintenance -- The Intra-Coastal Waterway traverses Carteret County connecting it with major east coast ports and industrial centers. A 40-foot channel is maintained by the Corps of Engineers at the State Ports Authority facility in Morehead City. The County participates with the Corps of Engineers in maintenance of several channels, including Gallants Channel, Bulkhead Channel, and Morgan Creek. Hardy Creek, Nelson Bay - Long Bay Channel and several harbors of refuge are also responsibilities of the County.
- (3) White Oak River/NC 24 Bridge - This narrow bridge poses a bottleneck for traffic entering Carteret County from the south and may become a major problem over the next ten years. This could potentially cause a threat to national security due to the volume of military traffic which passes over the bridge.
- (4) Core Creek Bridge Replacement - The N.C. 101 drawbridge across the Intra-Coastal Waterway at Core Creek is a narrow, unsafe lowrise bridge. It has a very restrictive weight limit that prohibits many heavy vehicles from crossing the bridge.
- (5) NC 24 Route Improvements - County representatives have recently requested that plans for four-laning this increasingly heavily used road be placed on the State work plan for road improvements. In addition to traffic associated with rapidly growing Bogue Banks communities, military traffic use on the route is heavy. Military use is likely to increase further with the establishment of the Department of Defense decontamination facility on Radio Island. Improvements are underway.

- (6) Air Transportation - The Morehead-Beaufort Airport is located adjacent to the corporate limits of the Town of Beaufort. The primary purpose in the construction of the Airport was to provide another military airport facility to be included in the Coastal Air Defense System during World War II. Other similar Coastal Air Defense facilities located in Carteret County and constructed during the World War II era are Bogue Field, located east of and adjacent to the Town of Cape Carteret, and Atlantic Field, located north of and adjacent to the community of Atlantic. The Morehead-Beaufort facility was turned over to Carteret County after World War II and Atlantic and Bogue Fields were retained by the Department of Defense for training purposes.

The Morehead-Beaufort Airport is located on approximately 340 acres northwest of Beaufort. The runways can accommodate medium-sized propeller aircraft and small business jet aircraft. The airport provides hanger space and fuel service. Aircraft maintenance and repair service are not offered at the facility.

The possibility of the Beaufort-Morehead City area becoming an onshore support facility for Outer-Continental Shelf (OCS) exploration has focused increased attention on the Airport. OCS exploration requires air transport of people and equipment to and from Texas and Louisiana on a frequent basis.

In addition, the County desires to upgrade the equipment and facilities so the airport may become a greater asset to economic development.

An updated Airport Master Plan was just completed and was released in 1984. This Plan will help the County identify specific facility and equipment needs and establish a program for meeting those needs.

- (6) Major Thoroughfares Development - Several areas adjacent to major thoroughfares in the County are prime areas for development. Specifically, these include U.S. 70 from Newport to Morehead City, N.C. 24 westward from its junction with U.S. 70 west of Morehead City, U.S. 70 east of Beaufort near East Carteret High School, N.C. 58 near the approach to Emerald Isle, and N.C. 101 just north of Beaufort to a point near the Intra-Coastal Waterway. These areas are all subject to pressure for residential and commercial development. This development, if uncontrolled, will likely cause congestion, reduce the capacity of the highways to carry traffic, and may cause adverse community appearance.

SECTION 1.6.3 SOLID WASTE

Carteret County operates the County's only sanitary landfill. It is utilized by all municipalities. Residents in unincorporated areas use the services of private contractors and/or an extensive green box system operated by the County. The County landfill is the final disposal location of all of these waste collection systems as well as building rubble and stumps generated as urban development proceeds in the County.

The new 137-acre landfill opened in February, 1984. The landfill tract, leased from Croatan National Forest, is expected to have about a

ten-year life. The County is currently attempting to begin negotiations with neighboring counties and Cherry Point MCAS in an attempt to form a consortium for resource recovery and steam generation.

It is also anticipated that a sludge disposal system will be needed by 1990.

SECTION 1.6.4 EDUCATIONAL FACILITIES AND SERVICES

The County School System encompasses the entire County (532 square miles) and includes (12) schools. In 1981-1982, the School System had an approximate enrollment of 7,396 (not including kindergarden). This enrollment was served by a total of 402 teachers (including 14 interim teachers). This means there was approximately 18 students for every teacher. Public school enrollment has gone down in recent years (excluding Kindergarden), but shows signs of stabilizing. This drop in public school enrollment seems to be related to fewer births in the County as well as the addition of new private schools. As growth continues, this situation may change.

The operation of the County Schools is governed by the County Board of Education. This Board is composed of five (5) elected officials. Administrative duties for the School Board are the responsibility of the Superintendent. The general administrative offices for the School System are located on Broad Street, across from the County Courthouse in Beaufort. Basically, the technical staff is responsible for statistics, transportation, maintenance, food service, federal program coordination, special programs, personnel and other administrative areas.

The labor demand in Carteret County and surrounding areas is requiring more and more skilled labor. These demands come from the con-

struction industry, Cherry Point, MCAS, the State Port, and many other sources. The County must provide opportunities for its residents to acquire necessary skills to compete for the jobs available.

With this in mind, the County has put a great deal of emphasis on Carteret Technical College. The main campus of the School is located on a fifteen (15) acre site in western Morehead City. This has been expanded recently by approximately seven (7) acres to the west and thirty-one (31) feet to the east. Included within this expansion were improvements to several existing buildings that can be used as workshops. The most recent capital improvement has been the addition of the new Learning Resources Center.

Additionally, there are several marine science research and educational facilities in Carteret County, including the National Marine Fisheries Services Laboratory, UNC Institute of Marine Science, and the N.C. Coastal Resources Center.

The Carteret County Library System is an important element in the educational life of the County. The existing facilities include a main library facility, two branches and a bookmobile. The main building is a new and attractive building located near the central business district of Beaufort. The branch facilities are located in Newport and Pine Knoll Shores on Bogue Banks.

At present the County Library systems contain approximately 35,000 total books.

Table 13

CARTERET COUNTY SCHOOLS-INDIVIDUAL ANALYSIS

| | <u>Year Build and Added On</u> | <u>No. of Classrooms</u> | <u>Capacity</u> | <u>Present Enrollment</u> | <u>Teachers</u> | <u>Grades</u> |
|-------------------------------|------------------------------------|------------------------------|-----------------|-------------------------------|-----------------|---------------|
| Atlantic Elementary | 1949 1976 | 16 | 485 | 257 | 12 | K-8 |
| Beaufort Elementary | 1945 | 61 | 750 | 609 | 29 | K-5 |
| Beaufort Middle | 1950 1965 1971 1982 | 19 | 450 | 390 | 20 | 6-8 |
| Camp Glen | 1954 1975 | 30 | 682 | 682 | 25 | K-6 |
| East Carteret High | 1966 1982 | 46 | 1,000 | 862 | 50 | 9-12 |
| Harker's Island Elementary | 1957 1966 | 16 | 350 | 289 | 13 | K-8 |
| Morehead Elementary | 1979 | 29 | 600 | 546 | 24 | K-5 |
| Newport Elementary | 1967 1978 1980 | 39 | 900 | 946 | 35 | K-8 |
| Smyrna Elementary | 1920 1982 | 30 | 400 | 375 | 20 | K-8 |
| West Carteret High | 1965 1982 | 64 | 1,550 | 1,561 | 65 | 9-12 |
| White Oak Elementary | 1963 | 23 | 700 | 705 | 24 | K-8 |
| Morehead Central | 1982 | 21 | 400 | 453 | 22 | 7-8 |

SECTION 1.6.5 RECREATION - CULTURAL

Carteret County is well endowed with recreation potential including such attractions as water-related activities (boating, swimming, water skiing, skin diving, surfing and fishing) and hunting. Points of interest include Fort Macon State Park (a well preserved Civil War fort), historic Beaufort, the Cape Lookout National Seashore Park, Croatan National Forest, and the Marine Resources Center, and Hampton Mariners Museum.

The purpose of public recreation is to serve people of all ages throughout the year with a variety of recreation opportunities to enrich their lives through the use of personal resources and the resources of their environment. There is a growing awareness of the part recreation plays in community living, as well as the growing acceptance of public responsibility to provide recreation opportunities. Recreation is an essential matter of public concern.

Public benefit and enjoyment are the principal objectives of County recreation, but good parks, trails, campsites and ball fields create economic rewards as well. Sufficient recreation activities and parks are an inducement to new industry and an attraction to prospective residents. County leadership and support for recreation make it possible for the inhabitants of the smallest community to participate in a recreation activity that would not otherwise be available to them.

According to the National Association of County Officials, the special role of the County in this area should be to acquire, develop and maintain parks and to administer public recreation programs that will serve the needs of communities broader than the local neighborhood or municipality but less than statewide or national in scope.

Existing recreational facilities in the County include the public beaches on Bogue Banks, Cape Lookout National Seashore Park, Ft. Macon State Park and the Croatan National Forest; thus the majority of the County's land area can be considered to have recreational value. Additionally, both Morehead City and the Town of Beaufort have two municipal parks. The County operates Freedom Park, Beaufort; Eastern Park, Smyrna; Swinson Park, Morehead City; Mariners Park, Sea Level; Salter Path Athletic Field, White Oak Athletic Field, Newport Athletic Field and numerous community play lots. The County also leases and maintains public tennis courts on Harker's Island. The County Recreation Department supervises public recreation activities in school gymnasiums at night.

SECTION 1.6.6 MEDICAL FACILITIES AND HEALTH SERVICES

1. Hospitals

Carteret General Hospital, located on Highway 70 in Morehead City, and Sea Level Hospital, owned by Duke University and located in Sea Level, are the two hospitals in Carteret County. Together they offer over 200 beds and bassinets. Carteret General is presently experiencing a very adequate and stable patient census.

While it appears at the present time that additional beds will not be needed at Carteret General in the immediate future, there is major expansion underway providing for the improvement of ancillary services. Under construction is a four million dollar expansion project which will provide a new emergency room, pathology lab, x-ray department, dietary facility and physical plant.

The new emergency room will be located on the Bridges Street side of the hospital. Over 15,000 emergency patients are served each year at Carteret General.

2. County Health Services

The Clinical Division of the Health Department is concerned with offering medical aid to the citizens of the County in many different ways.

Table 14

BASIC SERVICES OFFERED BY THE GENERAL
HEALTH SECTION OF THE HEALTH DEPARTMENT

1. Vital Statistics
2. X-Ray Clinics
3. Pre-School Clinics
4. Chest Clinics
5. Orthopedic Clinics
6. Nurse Screening Clinics
7. Pediatric Screening
8. Communicable Diseases
9. Venereal Disease
10. School
11. Chronic Disease Control
12. Family Planning Clinics
13. Dental Programs
14. Eye Clinics

The Public Health Department is currently inadequately housed in a 2,000 square foot building built in 1957 on Courthouse Square in Beaufort. Plans are in place to move the Department to a portion of a new County-owned 10,500 square foot facility in 1985.

Similarly, the present Mental Health Department is housed in rented quarters in Morehead City. Plans are underway to provide more modern, expanded facilities in closer proximity to Carteret General Hospital. Construction may begin in mid-1985.

The Environmental Health Division of the County Health Department has as its mission the protection of public health through the control of environmental contaminants and hazards which cause human illness and

disease or adverse effects on man's health and to enhance the quality of the environment through the elimination of unsanitary and other conditions which contribute to the degradation of land and water resources and to undesirable living conditions.

3. Mosquito and Rabies Control Department

The responsibilities of the Mosquito and Rabies Control Department include mosquito control through spraying, rabies control, collection of dogs, the operation of the animal shelter, and drainage work for the County. The Department receives funding assistance from the North Carolina Department of Human Resources.

SECTION 1.6.7 FIRE PROTECTION AND RESCUE SQUADS

The unincorporated portions of Carteret County are provided fire protection by fifteen non-profit corporations acting as volunteer fire departments within special taxing districts. The eight municipalities within Carteret provide for their own fire protection. The volunteer fire departments of Carteret County have over 700 nonpaid fire fighters, and approximately 20 paid fire fighters. These departments have built new stations and have acquired over 100 pieces of fire fighting equipment. It is estimated to cost over ten million dollars to replace all of the buildings and equipment now owned by the Carteret County Volunteer Fire Department. Most volunteer fire departments receive revenue from a variety of sources, including ad valorem taxes, sales tax, supplements from the County, and contributions. Nine (9) of the volunteer fire departments have a combined rescue squad facility. There are several separate rescue squad facilities in the County, i.e., Broad and Gales Creek, Beaufort, Morehead City and Wildwood. Carteret General Hospital provides for patient transport.

The County provides a Fire Marshall as an overall coordinator for fire protection services.

SECTION 1.6.8 SOCIAL SERVICES

The Carteret County Social Services Department provides a variety of public assistance services to the citizens of Carteret County, including financial, food stamp certification, adoption services, foster care, home health, and licensing of certain institutions.

SECTION 1.6.9 OTHER COUNTY FACILITIES

1. Courts and Court-Related Offices

By State statute, counties are required to provide facilities for the State Court System. As the Court System grows, counties must accommodate for this growth. Expansion and renovations work is underway on Courthouse Square, Beaufort to provide for improved Court System facilities. Construction is scheduled for completion in 1985.

2. County Jail

Local jail design and capacity requirements are controlled by the State. The County's existing jail has reached capacity at peak times. New facilities are planned to meet new construction requirements and to provide for increased capacity. Work is scheduled to begin in late 1987 and be completed 18 months thereafter.

3. Parking at County Facilities

Public parking for county offices and court-related facilities in Beaufort is a critical problem. The lack of capacity on Courthouse Square is aggravated by the adjacent proximity of both the Public School Administration Building and Carteret Community Action Headquarters,

neither of which provide parking for their employees or visitors who therefore also utilize spaces on Courthouse Square. Plans should be formulated immediately, to provide long-range, adequate parking for these governmental facilities.

SECTION 1.7

FUTURE LAND NEEDS

Based on peak seasonal population trends, unincorporated Carteret County can expect to see some 6,160 new dwelling units built by 1990, accommodating an additional 17,875 permanent and seasonal residents. Over seventy percent of these units will be built in the Morehead, Beaufort, Newport and White Oak Townships. Residential development, particularly of a second home or retirement nature, may tend to locate parallel to NC 24 along Bogue Sound, along NC 58 and the White Oak River, and in waterfront areas in the vicinity of Beaufort and Morehead City. Additional residential growth can be expected around Newport, but will probably not equal the amount of growth experienced in the 1970's. Additional lands in these areas should be classified as transition to accommodate the expected demand.

The expected levels of growth in the rural and downeast townships should tend to locate near existing community development.

While most of Bogue Banks falls within various municipal jurisdictions, new residential growth on that Island should be phenomenal over the next decade. Based on past trends, slightly more than 8,500 new dwelling units will be added, able to accommodate roughly 27,500 new residents (most of them seasonal). Bogue Banks is adequately classified to handle the expected levels of development.

Growth in the municipalities is expected to range from low (Morehead City) to moderate (Beaufort and Newport) to high (Cape Carteret). Growth in actual numbers is expected to be low, although dwelling unit totals in Cape Carteret should more than double.

SECTION 1.8

COMMUNITY FACILITIES DEMAND

As key areas of Carteret County experience growth, there will be additional community facility impacts on water, sewer, transportation, solid waste, schools, drainage and recreational services.

SECTION 1.8.1 WATER

As new subdivisions, mobile home parks and planned unit developments begin to establish themselves along Bogue Sound and the White Oak River, the need for centralized, community water systems will increase. Many of these developments will provide community well systems, which means the development can be more densely settled.

New development near Beaufort and Morehead City should have access to public water systems in those communities, and should be encouraged to tie in to available centralized systems.

The establishment of community water systems in the more isolated rural communities would be likely to improve health standards. The establishment of such systems could be achieved by community initiatives or possibly through federally financed programs such as the Community Development Block Grant Program.

SECTION 1.8.2 SEWER

The feasibility of publicly financed sewage treatment and disposal for those areas in unincorporated Carteret County likely to experience growth in the next ten years and which are not near urban centers is low. However, the lands along Bogue Sound and the White Oak River are likely to attract higher quality developments which will provide package treatment plants and possibly central sewer.

New developments near Beaufort and Morehead City are also likely to take advantage of their proximity to centralized sewer services. Some new developments may opt for the use of package treatment plants. There are limitations to package systems, which are discussed in more detail in Section 2.3.2.

SECTION 1.8.3 TRANSPORTATION

Increased development within Carteret County will have a dramatic impact on transportation systems. Traffic traveling to Bogue Banks should be accommodated adequately if the Morehead City-Atlantic Beach bridge is replaced, necessary turning lanes and intersection improvements are made on routes leading to and on Bogue Banks, and if a third bridge is established. If residential development along Bogue Sound and the White Oak River occurs at projected levels over the next ten years, the widening of NC 24 and NC 58 should be given serious consideration. The replacement of the bridge on NC 24 at Swansboro should also be a high priority in the next ten years.

SECTION 1.8.4 SOLID WASTE

The new landfill should address solid waste disposal needs for the next decade. However, as areas along waterways become more suburban than rural in character, new alternatives to the greenbox system will become necessary and will be more economically feasible. Additionally, private collection of solid waste within individual developments may be offered as part of homeowners association agreements or county franchise.

SECTION 1.8.5 EDUCATIONAL FACILITIES

Currently, school populations in Carteret County have leveled off (see Section 1.6.4). As the County's population increases, there will be a subsequent rise in the number of school age children. Although much of the in-migration is expected to be in the form of "empty-nesters", i.e., persons who are retired or are only seasonal visitors with grown children, the larger permanent and seasonal populations will create a demand for increased services. Persons employed by service-related businesses, many of them with school age children, will be drawn into the area. The County School Board should anticipate an upward shift in enrollments in the next decade. Carteret Tech may also need to expand as the young adult population, drawn to the area by the prospect of jobs, increases.

An additional elementary school for western Carteret County is already being anticipated by the County School Board.

SECTION 1.8.6 DRAINAGE

Much new residential development in Carteret County will tend to locate along waterways -- Core Creek, the Newport River estuary, Bogue Sound and the White Oak River. The most significant environmental impact of such water-oriented development will be the results of storm-water runoff. The County currently has no drainage standards for residential development. If surface water quality is to be protected in areas expected to receive residential development, drainage standards which slow the rate of flow and allow runoff to reduce its pollutant load before draining into surface waters are a high priority. The establishment of such standards can substantially reduce the amount of

publicly financed drainage infrastructure required as well. These standards are also applicable in relation to agriculture and other large scale land-disturbing activities (see Section 2.1.3.).

SECTION 1.8.7 RECREATION

As development continues to increase on Bogue Banks, and as the County's overall population grows, access to recreational areas may diminish. Unless public access is required in conjunction with new developments along waterways and at the beach, long-standing public accessways may be lost. Greater numbers of people will be using a reduced number of access points. While it is recognized that Carteret County is blessed with the Cape Lookout National Seashore and Ft. Macon State Park, access to other parts of Bogue Banks and to Bogue Sound and other waterways should not be taken for granted. State and federal monies can be tapped to help the County purchase beach, river and sound-front property for future accessways, and dedication of access and parking space can be required as a condition of approval for new developments.

SECTION 2.0

POLICY ALTERNATIVES

Policy has been defined as "intelligently directed action toward conscious goals - as distinct from aimless drift and blind faith". As directed action, it is at the head of a process which leads from policy to plans to programs to projects, each contributing to support the overall policy. The identification of policy issues begins the process of directed action which ultimately leads to the question of how a local government addresses a specific problem. Within the context of the Coastal Area Management Act, the discussion of policy usually centers around four (4) elements:

- (1) the definition of issues;
- (2) the discussion of possible policy alternatives;
- (3) the choice of policies; and
- (4) the description of proposed implementation methods.

Issues which have been identified in the course of the Plan's development are described, and possible policy alternatives discussed in the following section. Where applicable, the requirements necessary to implement each alternative (such as changes to existing ordinances, for example) are stated in parentheses after each alternative. Final policy choices and the policy selected by the county are highlighted at the end of each discussion.

Specifically, CAMA requires a discussion of resource protection, resource production and management, economic and community development and continuing public participation issues. Within each of these broad areas, the overall policies must address several specific issues which

further define the areas of concern to the jurisdiction and frames the possible courses of action. While the data elements of the first Section show the nature of change in Carteret County in recent years, the development of this policy section represents the changing perspectives of the County as it begins to direct its planning efforts at more specific areas of concern.

CAMA also requires a discussion of storm hazard mitigation, post disaster recovery and evacuation plans as part of a local government's land use planning process. Carteret County completed that requirement in June of 1984 and the reader should refer to that separate document available at the planning department. As mentioned earlier, the plan includes all Bogue Banks communities, Morehead City and Beaufort.

SECTION 2.1

RESOURCE PROTECTION

SECTION 2.1.1 AREAS OF ENVIRONMENTAL CONCERN

In 1978, the State assumed full responsibility for designating and regulating development in the Areas of Environmental Concern (AEC). The designation of AECs has a tremendous impact on Carteret County and represents the major thrust of CAMA. Protection of the estuarine waters serves to save a major incubation area for most marine life and to buffer and protect the sensitive shoreline from damage. Public trust waters provide everyone with the right to enjoy and use the water for personal benefit and enjoyment. Fragile coastal, natural and cultural resources include unique natural and social elements that enhance our understanding of our past and present. Ocean Hazard Areas include those areas subject to wind and wave erosion and other natural land forming and changing elements.

In Carteret County, the following Areas of Environmental Concern (AECs) have been designated:

- (1) Coastal Wetlands
- (2) Estuarine Waters
- (3) Public Trust Areas
- (4) Estuarine Shorelines
- (5) Ocean Hazard Areas
 - a. Ocean Erodible Areas
 - b. High Hazard Flood Areas
 - c. Inlet Hazard Areas

These areas have been classified as Conservation on the Carteret County Land Classification Map. Development within these areas is expected to be of a nature that will provide the least possible damage to land lying within the AECs. In no case should development be allowed to an extent that will cause complete destruction of the resources which cause it to be found in an AEC.

CAMA Provision for AECs

The Coastal Area Management Act requires that these State Guidelines "shall give particular attention to the nature of development which shall be appropriate within the various types of Areas of Environmental Concern that may be designated by the Commission".

The Act further provides that local land use plans "shall give special attention to the protection and appropriate development of Areas of Environmental Concern".

The 1974 Legislature found that "the coastal area, and in particular the estuaries, are among the most biologically productive regions of this State and of the Nation, but in recent years the area has been subjected to increasing pressures which are the result of the often conflicting needs of society expanding in industrial development, in population, and in the recreational aspirations of its citizens".

Selection of Areas for AEC Designation

The selection of AEC categories was made after several months of consideration by local governments. Thirteen (13) categories were finally designated.

SECTION 2.1.1(a) THE ESTUARINE SYSTEM

The first AECs discussed collectively represent the water and land areas of the coast that contribute enormous economic, social and biological values as North Carolina's estuarine system. Included within the estuarine system are the following AEC categories: Estuarine Waters, Coastal Wetlands, Public Trust Areas and Estuarine Shorelines. Each of these AECs is either geographically within the estuary or, because of its location and nature, may significantly affect the estuary.

Significance of the Systems Approach in Estuaries

The management program must embrace all characteristics, processes, and features of the whole system and not characterize individually any one component of an estuary. They are interdependent and ultimately require management as a unit. Any alteration, however slight, in a given component of the estuarine system may result in unforeseen consequences in what may appear as totally unrelated areas of the estuary. For example, destruction of wetlands may have harmful effects on estuarine waters which are also areas within the public trust. As a unified system, changes in one AEC category may affect the function and use within another category.

Management Objectives of the Estuarine System

It is the objective of the CRC to give high priority to the protection and coordinated management of Estuarine Water, Coastal Wetlands, Public Trust Areas, and Estuarine Shorelines, as an interrelated group of AECs, so as to safeguard and perpetuate their biological, social, economic and aesthetic values and to ensure that development occurring

within these AECs is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources.

AECs within the Estuarine System

The following defines each AEC within the estuarine system, describes its significance, articulates the policies regarding development, and states the standards for development within each AEC.

SECTION 2.1.1(b) COASTAL WETLANDS

Description

Coastal Wetlands are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides.

Coastal Wetlands contain some, but not necessarily all, of the following marsh plant species:

| | |
|-------------------|-----------------------------------|
| Cord Grass | (<u>Spartina Alterniflora</u>); |
| Black Needlerush | (<u>Juncus Roemerianus</u>); |
| Glasswort | (<u>Salicornia Spp.</u>); |
| Salt Grass | (<u>Distichlis Spicata</u>); |
| Sea Lavender | (<u>Limonium Spp.</u>); |
| Bulrush | (<u>Scirpus Spp.</u>); |
| Saw Grass | (<u>Cladium Jamaicense</u>); |
| Cattail | (<u>Typha Spp.</u>) |
| Salt Meadow Grass | (<u>Spartina Patens</u>); and |
| Salt Reed Grass | (<u>Spartina Cynosuroides</u>). |

Included in this definition of Coastal Wetlands is "such contiguous land as the Secretary of Natural Resources and Community Development reasonably deems necessary to affect by any such order in carrying out the purpose of this Section" (G.S. 113-230(a)).

Significance

The unique productivity of the estuarine system is supported by detritus and nutrients that are exported from the coastal marshlands. The amount of exorption and degree of importance appears to be variable from marsh to marsh, depending primarily upon its frequency of inundation and inherent characteristics of the various plant species. Without the marsh, the high productivity levels and complex foodchains typically found in the estuarines could not be maintained.

Management Objective

To give highest priority to the protection and management of Coastal Wetlands so as to safeguard and perpetuate their biological, social, economic and aesthetic values. To coordinate and establish a management system capable of conserving and utilizing Coastal Wetlands as a natural resource essential to the functioning of the entire estuarine system.

Use Standards

Suitable land uses shall be those consistent with the above management objective. Highest priority of use shall be allocated to the conservation of existing Coastal Wetlands. Second priority of Coastal Wetland use shall be given to those types of development activities that require water access and cannot function elsewhere.

Coastal Wetlands in Carteret County are generally found adjacent to all water courses - rivers, tributaries, and sounds. The most extensive wetlands are found in the northeastern part of the County. Also, extensive wetlands are found on Core Banks adjacent to Core Sound.

Unacceptable land uses may include, but would not be limited to, the following examples: restaurants and businesses; residences, apartments, motels, hotels, mobile home parks, parking lots, offices, public and private roads and highways, and factories. Examples of acceptable land uses may include utility easements, fishing piers, docks, farming, and forestry drainage as permitted under the N.C. Dredge and Fill Act and/or other applicable laws.

In every instance, the particular location, use, and design characteristics shall be in accord with the general use standards for coastal wetlands, estuarine waters, and public trust areas described in the most current reading of NCAC 7H .0208.

SECTION 2.1.1(c) ESTUARINE WATERS

Description

Estuarine Waters are defined in G.S. 113A-113(b)(2) as "all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Natural Resources and Community Development and filed with the Secretary of State, entitled 'Boundary Lines, North Carolina Commercial Fishing - Inland Fishing Waters' revised to March 1, 1965.

Significance

Estuarine Waters are the dominant component and bonding element of the entire estuarine system, integrating aquatic influences from both the land and the sea. Estuaries are among the most productive natural environments of North Carolina. They support the valuable commercial and sports fisheries of the coastal area which are comprised of estuarine dependent species such as menhaden, flounder, shrimp, crabs, oysters, and clams.

Management Objective

To give the highest priority to the conservation and management of the important features of Estuarine Waters so as to safeguard and perpetuate their biological, social, aesthetic, and economic values. To coordinate and establish a management system capable of conserving and utilizing Estuarine Waters so as to maximize their benefits to man and the estuarine system.

Use Standards

Suitable land/water uses shall be those consistent with the above management objective. Highest priority of use shall be allocated to the conservation of estuarine waters and its vital components. Second priority of estuarine waters use shall be given to those types of development activities that require water access and use which cannot function elsewhere such as simple access channels; structures to prevent erosion; navigation channels; boat docks, marinas, piers, wharfs, and mooring pilings.

In every instance, the particular location, use, and design characteristics shall be in accord with the general use standards for coastal wetlands, estuarine waters, and public trust areas described in the most current reading of NCAC 7H .0208.

SECTION 2.1.1(d) PUBLIC TRUST AREAS

Description

Public Trust Areas are all waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of State jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; all navigable natural bodies of water and lands therein to the mean high water level or mean water level as the case may be, except privately owned lakes to which the public has no right of access; all water in artificially created bodies of water containing significant public fishing resources or other public resources which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; and all waters in artificially created bodies of water in which the public has acquired right by prescription, custom, usage, dedication or any other means. In determining whether the public has acquired rights in artificially created bodies of water, the following factors shall be considered:

- (1) The use of the body of water by the public;
- (2) The length of time the public has used the area;
- (3) The value of public resources in the body of water;
- (4) Whether the public resources in the body of water are mobile to the extent that they can move into natural bodies of water;

- (5) Whether the creation of the artificial body of water required permission from the State; and
- (6) The value of the body of water to the public for navigation from one public area to another public area.

Significance

The public has rights in these areas, including navigation and recreation. In addition, these areas support valuable commercial and sports fisheries, have aesthetic value, and are important potential resources for economic development.

Management Objective

To protect public rights for navigation and recreation and to preserve and manage the Public Trust Areas so as to safeguard and perpetuate their biological, economic and aesthetic value.

Use Standards

Acceptable uses shall be those consistent with the above management objective. In the absence of overriding public benefits, any use which significantly interferes with the public right of navigation or other public trust rights which the public may be found to have in these areas shall not be allowed. The development of navigational channels or drainage ditches, the use of bulkheads to prevent erosion, and the building of piers, wharfs, or marinas are examples of uses that may be acceptable within Public Trust Areas, provided that such uses will not be detrimental to the public trust rights and the biological and physical functions of the estuary. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high water, cause adverse water

circulation patterns, violate water quality standards, or cause degradation of shellfish waters, are generally considered incompatible with the management policies of Public Trust Areas. In every instance, the particular location, use, and design characteristics shall be in accord with general use standards for coastal wetlands, estuarine waters and public trust areas described in the most current reading of NCAC 7H .0208.

SECTION 2.1.1(e) ESTUARINE SHORELINES

Rationale

As an AEC, estuarine shorelines, although characterized as dry land, are considered a component of the estuarine system because of the close association with the adjacent estuarine waters.

Description

Estuarine shorelines are those non-ocean shorelines which are especially vulnerable to erosion, flooding or other adverse effects of wind and water and are intimately connected to the estuary. This area extends from the mean high water level or normal water level along the estuaries, sounds, bays and brackish waters as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Natural Resources and Community Development for a distance of 75 feet landward.

Significance

Development within estuarine shorelines influences the quality of estuarine life and is subject to the damaging processes of shorefront erosion and flooding.

Management Objectives

To ensure shoreline development is compatible with both the dynamic nature of estuarine shorelines and the values of the estuarine system.

Use Standards

All development projects, proposals and designs shall substantially preserve and not weaken or eliminate natural barriers to erosion, including, but not limited to peat marshland, resistant clay shorelines, cypressgum protective fringe areas adjacent to vulnerable shorelines.

All development projects, proposals and designs shall limit the construction of impervious surfaces and areas not allowing natural drainage to only so much as is necessary to adequately service the major purpose or use for which the lot is to be developed. Impervious surfaces shall not exceed 30 percent of the AEC area of the lot, unless the applicant can effectively demonstrate, through innovative design, that the protection provided by the design would be equal to or exceed the protection by the 30 percent limitation.

All development projects, proposals and designs shall comply with the mandatory standards of the North Carolina Sedimentation Pollution Control Act of 1973.

Development shall not have a significant adverse impact on estuarine resources.

Development shall not significantly interfere with existing public rights of access to, or use of, navigable waters or public resources.

No major public facility shall be permitted within the estuarine shoreline if such facility is likely to require extraordinary public expenditures for maintenance and continued use, unless it can be shown that the public purpose served by the facility outweighs the required

public expenditures for construction, maintenance, and continued use. For the purpose of this standard, "public facility" shall mean a project which is paid for in any part by public funds.

Development within estuarine shorelines shall not cause major or irreversible damage to valuable, documented historic architectural or archaeological resources.

In every instance, the particular location, use and design characteristics of all developments shall be in accord with the most recent use standards for estuarine shorelines (NCAC 7H .0209).

Policy Alternatives

- (1) To allow only those activities requiring water access and/or use which cannot function elsewhere to locate in estuarine and public trust waters, coastal wetlands and estuarine shorelines, and subject to the local minor development permit process and all regulations specified in NCAC 7H.
- (2) To allow only those activities requiring water access and/or use which cannot function elsewhere to locate in estuarine and public trust waters, and coastal wetlands. Residential and commercial development may be located within estuarine shorelines. All activities in AECs will be subject to the local minor development permit process and all regulations specified in NCAC 7H.

SELECTED POLICY: Carteret County Adopts Policy #2.

SECTION 2.1.1(f) OCEAN HAZARD AREAS

The next broad grouping is composed of those AECs that are considered natural hazard areas along the Atlantic Ocean shoreline where, because of their special vulnerability to erosion or other adverse

effects of sand, wind and water, uncontrolled or incompatible development could unreasonably endanger life or property. Ocean Hazard Areas include beaches, frontal dunes, inlet land and other areas in which geologic, vegetative and soil conditions indicate a substantial possibility of excessive erosion or flood damage.

Areas within Carteret County's jurisdiction which contain lands in the Ocean Hazard AEC classification include Core, Shackleford and Bogue Banks. Land altering activity within the Cape Lookout National Seashore Park is not subject to the permitting process, but is checked for consistency with State guidelines and the local Land Use Plan. Only two areas on Bogue Banks lie within the County's permitting jurisdiction: (1) the community of Salter Path (including about one-half mile of oceanfront), and (2) an area between Pine Knoll Shores and Atlantic Beach containing about 1,000 feet in the Ocean Hazard Area.

Significance

The primary cause of the hazards peculiar to the Atlantic shoreline are the constant forces exerted by waves, winds, and currents upon the unstable sands that form the shore. During storms, these forces are intensified and can cause significant changes in the bordering landforms and to structures located on them. Hazard Area property is in the ownership of a large number of private individuals as well as several public agencies and is used by a vast number of visitors to the coast. Ocean Hazard Areas are critical, therefore, because of both the severity of the hazards and the intensity of interest in the areas.

The location and form of the various Hazard Area landforms, in particular the beaches, dunes, and inlets, are in a permanent state of flux, responding to meteorologically induced changes in the wave cli-

mate. For this reason, the appropriate location of structures on and near these landforms must be reviewed carefully in order to avoid their loss or damage. As a whole, the same flexible nature of these landforms which presents hazards to development situation immediately on them offers protection to the land, water, and structures located landward of them. The value of each landform lies in the particular role it plays in affording protection to life and property. Overall, however, the energy dissipation and sand storage capacities of the landforms are most essential for the maintenance of the landforms' protective function.

Management Objective

The CRC recognizes that absolute safety from the destructive forces indigenous to the Atlantic shoreline is an impossibility for development located adjacent to the coast. The loss of life and property to these forces, however, can be greatly reduced by the proper location and design of shoreline structures and by care taken in prevention of damage to natural protective features, particularly primary and frontal dunes. Therefore, it is the CRC's objective to provide management policies and standards for Ocean Hazard Areas that serve to eliminate unreasonable danger to life and property and achieve a balance between the financial, safety, and social factors that are involved in Hazard Area development.

AEC's Within Ocean Hazard Areas

The Ocean Hazard system of AECs contains all of the following areas:

- (1) Ocean Erodible Area. This is the area in which there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The seaward boundary of this area is

the mean low water line. The landward extent of this Area is determined as follows:

- (a) a distance landward from the first line of stable natural vegetation to the recession line that would be established by multiplying the long-term annual erosion rate which for the purposes of this Section shall be those as set forth in tables entitled "Long-Term Annual Erosion Rates Updated through 1980," approved by the Coastal Resources Commission on March 18, 1983, times 60, provided that where there has been no long-term erosion or where the rate is less than two feet per year, this distance shall be set at 120 feet landward from the first line of stable natural vegetation; and
 - (b) a distance landward from the recession line established in Subparagraph (a) of this Paragraph to the recession line that would be generated by a storm having a one percent chance of being equalled or exceeded in any given year.
- (2) The High Hazard Flood Area. This is the area subject to high velocity waters (including, but not limited to, hurricane wave wash) in a storm having a one percent chance of being equalled or exceeded in any given year, as identified as zone V1-30 on the flood insurance rate maps of the Federal Insurance Administration, U.S. Department of Housing and Urban Development. In the absence of these rate maps, other available base flood elevation data prepared by a federal, State, or other source may be used, provided said data source is approved by the CRC.

- (3) Inlet Hazard Area. The Inlet Hazard Areas are natural-hazard areas that are especially vulnerable to erosion, flooding and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets. This area shall extend landward from the mean low water line a distance sufficient to encompass that area within which the inlet will, based on statistical analysis, migrate and shall consider such factors as previous inlet territory, structurally weak areas near the inlet (such as an unusually narrow barrier island, an unusually long channel feeding the inlet, or an overwash area), and external influences such as jetties and channelization. These areas shall be identified on Inlet Hazard Area maps approved by the Coastal Resources Commission. In all cases, this area shall be an extension of the adjacent ocean erodible area and in no case shall the width of the inlet hazard area be less than the width of the adjacent ocean erodible area.

Use Standards

General use standards for development in Ocean Hazard Areas must conform to the most current reading of NCAC 7H .0306 - 7H .0310.

Policy Alternatives

- (1) Carteret County can impose additional standards on Ocean Hazard Areas within its jurisdiction, such as density or height limitations. (Requires amendments to subdivision/zoning ordinances.)
- (2) Carteret County can endorse State standards for Ocean Hazard Areas within its permitting jurisdiction.

SELECTED POLICY: Carteret County Adopts Policy #1.

SECTION 2.1.2 FRAGILE AREAS

The N.C. Natural Heritage Program has identified nine natural areas in Carteret County of National or State significance, and twelve natural areas of regional or local significance. These areas, which are more fully described in Section 1.5.2, are listed below with policy recommendations as necessary.

1. NATIONAL AND STATE SIGNIFICANCE

A. Portsmouth Island - Core Banks

Protection Status: The entire area is part of Cape Lookout National Seashore, and the majority of the area will be managed as a natural area.

Policy Alternatives:

- (1) Endorse the management of the majority of this area as a natural area by the National Park Service.
- (2) Classify entire area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

B. North Bay Barrier

Protection Status: The westernmost two miles of the system are protected from development by their inclusion in Cedar Island National Wildlife Refuge; the easternmost three miles are rendered inaccessible by the presence of several inlets.

Policy Alternatives:

- (1) Classify the westernmost two miles (Cedar Island Wildlife Refuge) and easternmost three miles (privately owned but inaccessible except by boat), which are undeveloped, as Conservation.

- (2) Classify all undeveloped portions of the barrier as Conservation; classify developed areas Community.

(Entire area currently classified conservation).

SELECTED POLICY: Carteret County Adopts Policy #2.

C. Cedar Island Marshes

Protection Status: The U.S. Fish and Wildlife Service administers some 6,000 acres of the 7,000 acre marsh. Currently, the Service is considering the impoundment of about 2,000 acres northwest of NC 12 for waterfowl habitat. The entire natural area is an AEC.

Policy Alternatives:

- (1) Classify entire area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

D. Shackleford Banks

Protection Status: Under NPS administration, all of Shackleford is proposed as a "natural zone" and will be protected as a wilderness with minimal visitor facilities.

Policy Alternatives:

- (1) Endorse NPS administration of area as a "natural zone".
(2) Classify entire area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

E. Rachel Carson National Estuarine Sanctuary

Protection Status: The Complex has been acquired by the State, which has prepared a natural area management plan for the Sanctuary.

Policy Alternatives:

- (1) Endorse State management as a natural area.
- (2) Classify entire area within County's jurisdiction as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

F. Croatan Pocosin

Protection Status: Wholly owned by the U.S. Government, this area has been proposed by the U.S. Forest Service as a Wilderness - RARE II area, which would make it part of the National Wilderness System.

Policy Alternatives:

- (1) Endorse USFS efforts to have area designated as a Wilderness - RARE II area.
- (2) Classify entire area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

G. Millis Road Longleaf Pine Savannah Natural Area

Protection Status: Public land not recognized as a natural area. The N.C. Natural Heritage Program recommended maintenance of the present vegetational structure and the possible establishment of the area by the USFS as a "red-cockaded woodpecker management area" or "savannah management area".

Policy Alternatives:

- (1) Recommend to USFS that the area be managed as a natural area, particularly to protect as a habitat for the red-cockaded woodpecker and Savannah species.
- (2) Classify entire area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

H. Patsy Pond Natural Area

Protection Status: Not recognized as a natural area. The Natural Heritage program recommended management for endangered and threatened species preservation, and for scientific and educational purposes.

Policy Alternatives:

- (1) Recommend to USFS that the area be managed as a natural area for endangered and threatened species and unique community preservation.
- (2) Classify area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

I. Theodore Roosevelt Natural Area

Protection Status: Roughly 265 acres has been set aside to remain in a natural state and is administered by the Department of Administration.

Policy Alternatives:

- (1) No recommendation, as area lies within Town of Pine Knoll Shores jurisdiction.
- (2) Recommend that the Town consider preserving the entire tract as a natural area.

SELECTED POLICY: Carteret County Adopts Policy #1.

2. REGIONAL OR LOCAL SIGNIFICANCE

a. Atlantic Natural Area (Atlantic Township).

Protection Status: 100% privately owned, not an AEC. The Natural Heritage Survey suggested U.S. Fish and Wildlife buy the northwest portion of the tract, which is adjacent to Cedar Island Wildlife Refuge.

Policy Alternatives:

- (1) Encourage U.S. Fish and Wildlife to acquire the northwest portion of the tract, which is adjacent to the Cedar Island Wildlife Refuge.
- (2) Classify area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

b. Brown's Island (Harker's Island Township)

Protection Status: Currently classified as Conservation, privately owned. Some low density residential development can be anticipated.

Policy Alternatives:

- (1) Classify all areas above the high water line not covered by marshes or 404 wetlands as Rural-Residential; classify areas below the high water line, all marsh areas and all 404 wetland areas as Conservation.
- (2) Classify entire area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

c. North River Marshes (Beaufort/Straits Township)

Protection Status: Classified as an AEC (coastal wetlands); private ownership.

Policy Alternative:

- (1) Classify as Conservation

SELECTED POLICY: Carteret County Adopts Policy #1.

d. Sea Gate Woods (Harlowe Township)

Protection Status: None; privately owned.

Policy Alternatives:

- (1) Recognize as a natural area; encourage maintenance of natural tree cover if area is developed. (Example:

amend Subdivision Regulations to require protection of trees as part of subdivision plat approval.)

(2) Classify area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

e. Union Point Pocosin (Newport Township)

Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.

Policy Alternatives:

(1) Recommend to USFS that the area be managed as a natural area.

(2) Classify area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

f. Walkers Mill Pond (Newport Township)

Protection Status: Privately owned; current use limited to hunting and fishing.

Policy Alternative:

(1) Classify area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

g. Masontown Pocosin (Newport Township)

Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.

Policy Alternatives:

(1) Recommend to USFS that the area be managed as a natural area.

(2) Classify area as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

h. Wildberry Woods (White Oak Township)

Protection Status: Registered N.C. Natural Heritage Area.

Policy Alternative:

- (1) Classify as Conservation (registered as a N.C. Natural Heritage Area).

SELECTED POLICY: Carteret County Adopts Policy #1.

i. Pringle Road Carolina Bays (White Oak Township)

Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.

Policy Alternatives:

- (1) Recommend to USFS that the areas be managed as a natural area.
- (2) Classify as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

j. Hadnot Creek Ponds (White Oak Township)

Protection Status: Not recognized as a natural area; 100% federally owned and located in Croatan National Forest.

Policy Alternatives:

- (1) Recommend to USFS that the area be managed as a natural area.
- (2) Classify as Conservation.

SELECTED POLICY: Carteret County Adopts Policy #1.

k. Hadnot Creek (White Oak Township)

Protection Status: Privately owned southwest section and Creek mouth registered as a N.C. Natural Heritage Area. Northeast section is part of Croatan National Forest and is not recognized as a natural area. Remaining 400 acres owned by a lumber company.

Policy Alternatives:

- (1) Recommend to USFS that the area in their ownership be managed as a natural area.
- (2) Classify as Conservation.
- (3) Classify all but 400 acres owned by lumber company as Conservation; classify lumber holdings as Rural.

SELECTED POLICY: Carteret County Adopts Policy #1 and #3.

1. Emerald Isle Woods (Town of Emerald Isle)

Protection Status: Local ordinance requiring maintenance of 45% of site in natural vegetation for all residentially zoned land.

Policy Alternatives:

- (1) No recommendation, as area lies within Town of Emerald Isle jurisdiction.
- (2) Recommend that the Town protect all or part of the area as a natural area.
- (3) Recommend that the Town establish landscaping standards to encourage maintaining forest cover.

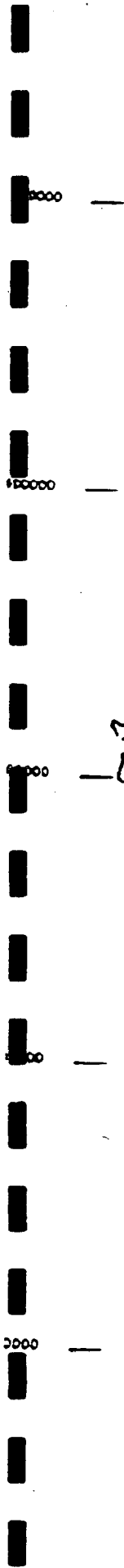
SELECTED POLICY: Carteret County Adopts Policy #1.

3. PRIMARY NURSERY AREAS

Primary Nursery Areas are identified on Maps 6 through 10.

Policy Alternatives

- (1) Classify all land areas adjacent to primary and secondary nursery areas within 75-feet of mean high water as Conservation, and limit development to only those activities requiring water access and/or a use which cannot function elsewhere. Maintain natural drainage patterns into primary and secondary nursery areas.

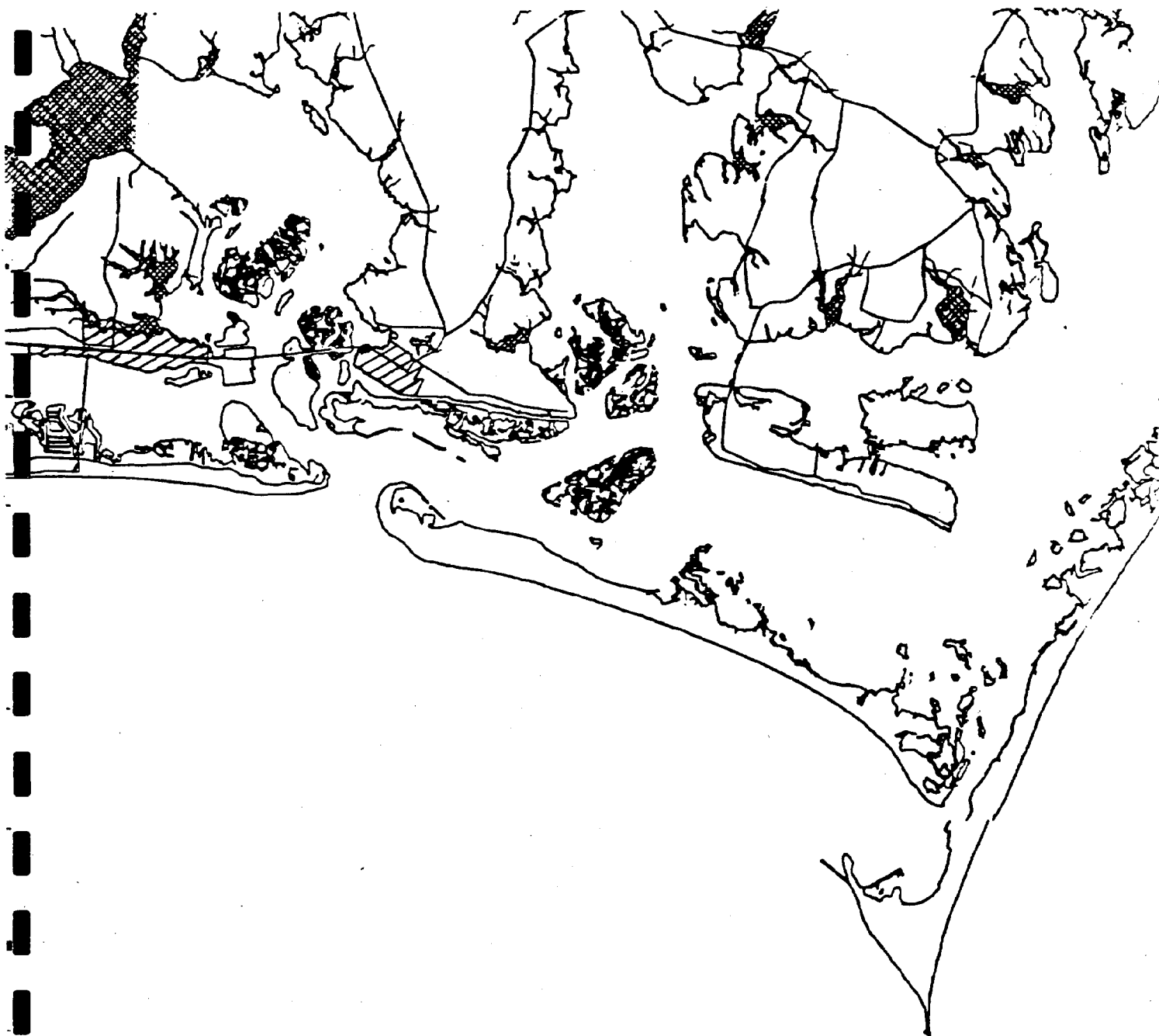


PRIMARY NURSERY AREAS
MAP 6 Page 127



PRIMARY NURSERY AREAS

MAP 7 Page 128



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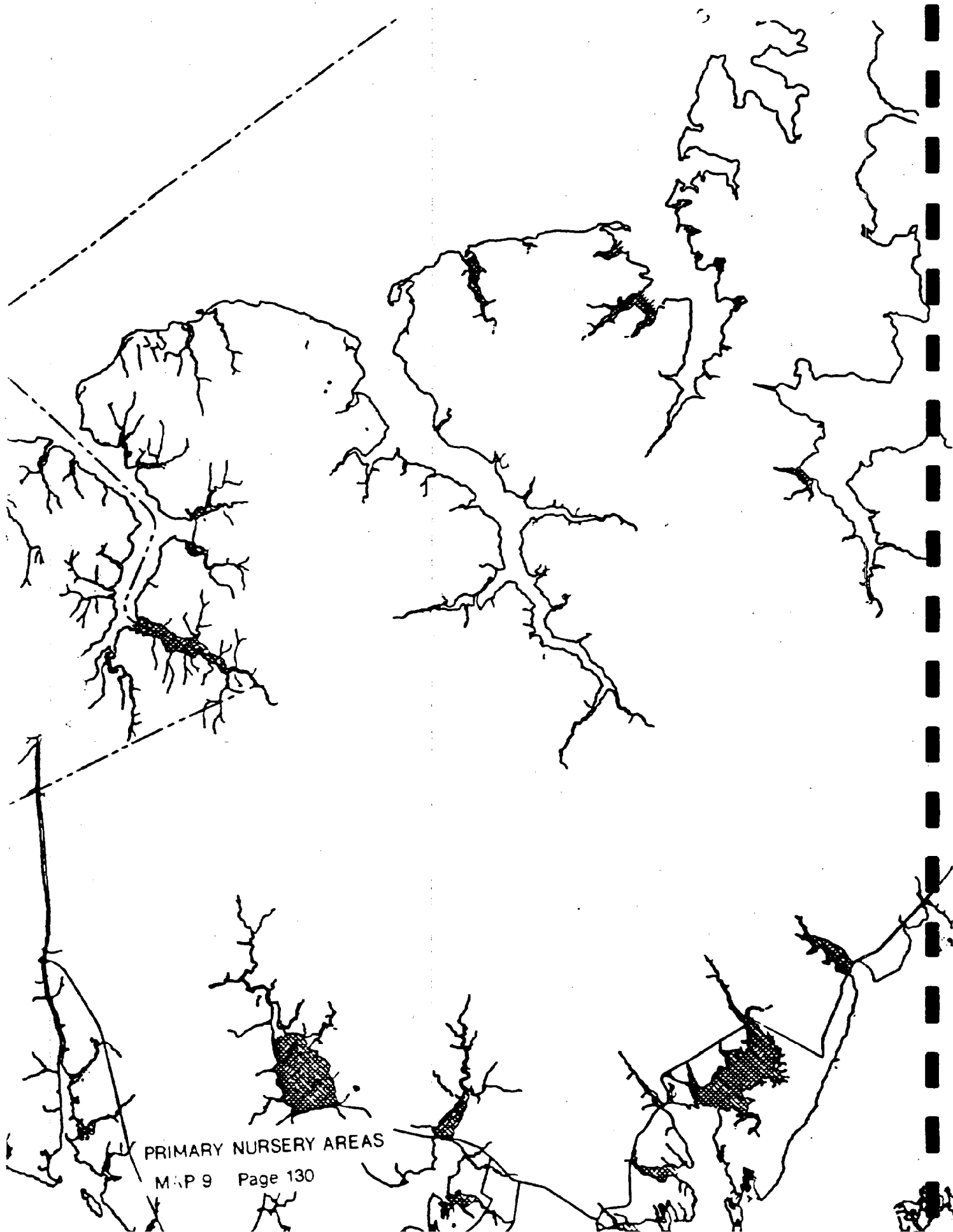
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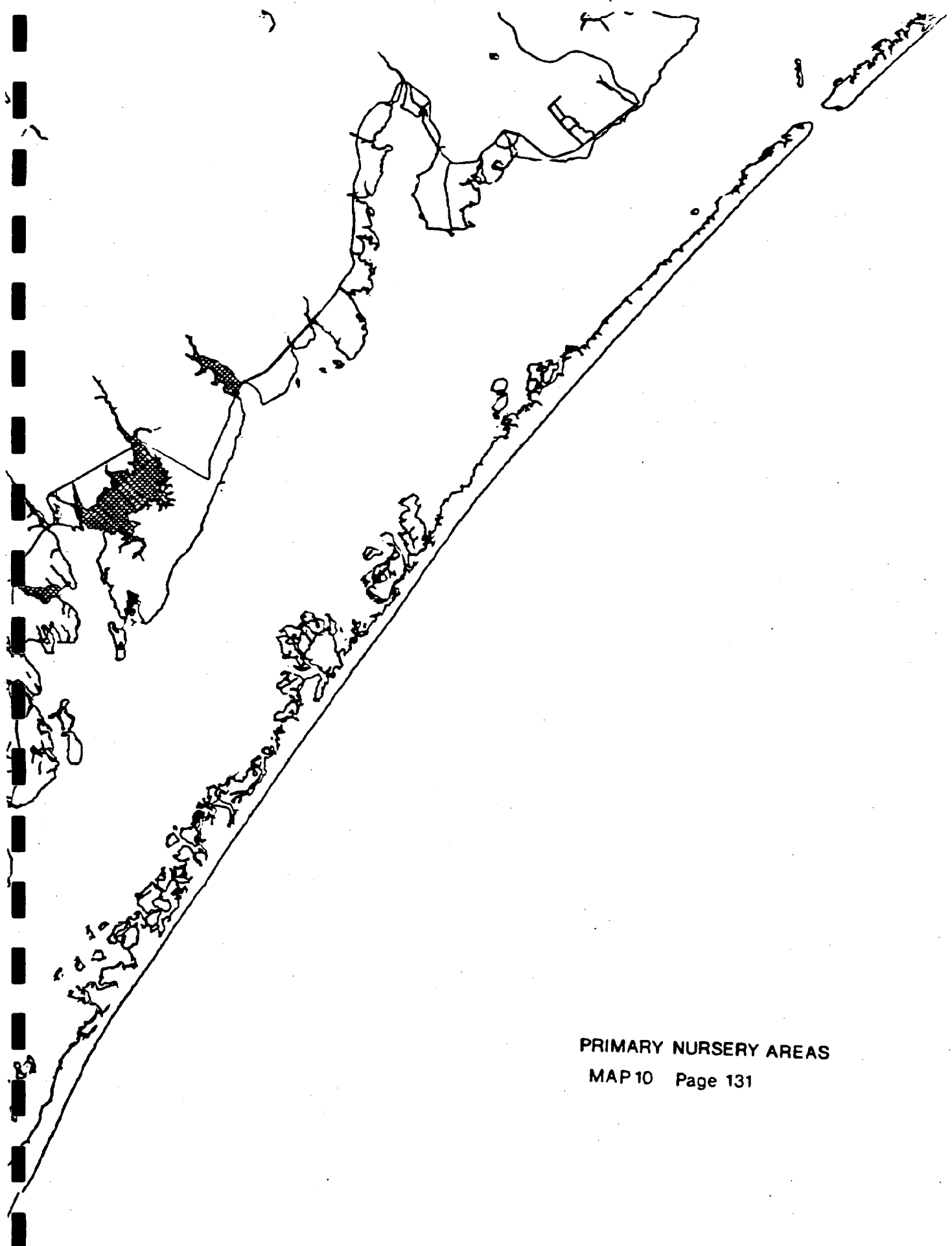
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PRIMARY NURSERY AREAS

MAP 8 Page 129





PRIMARY NURSERY AREAS
MAP 10 Page 131

- (2) Classify all land areas adjacent to primary nursery areas within 75 feet of mean high water as Conservation, and preclude all land uses.
- (3) Classify all land areas adjacent to primary nursery areas within 75 feet of mean high water as Conservation, and limit development to low density residential use (suggested density: one unit per acre or less, in keeping with the Rural density threshold) and only those activities in conjunction with residential use requiring water access and/or use which cannot function elsewhere.
- (4) Classify all land areas adjacent to primary nursery areas within 75 feet of mean high water as Conservation, and limit development to only those activities which, in conjunction with nearby residential activities, require water access and/or use and which cannot function elsewhere.
- (5) Classify all land areas adjacent to primary nursery areas within 75 feet of mean high water as Conservation, and limit development to low density residential use (suggested density: one unit per acre or less, in keeping with the Rural density threshold) and only those activities which require water access and/or use and which cannot function elsewhere.

SELECTED POLICY: Carteret County Adopts Policy #5.

4. OTHER FRAGILE AREAS - SOUND AND RIVER ISLANDS

Carteret County, with its vast areas of protected water, is scattered with hundreds of islands, many so small they do not appear on detailed maps. Currently, all undeveloped islands

located in sounds are classified as Conservation, but river islands are not included in this classification, leaving them in the Rural category. Because of potential difficulties regarding access and the provision of sewer and water, and because of the proximity of such islands to estuarine waters, the County's development policy for river and sound islands needs to be clarified.

Policy Alternatives

- (1) Prohibit residential or other forms of development on all presently undeveloped natural and spoil islands in Carteret County sounds and rivers. (Classify such areas as Conservation.)
- (2) Allow low intensity, dispersed residential development on presently undeveloped, natural, non-spoil islands in areas above the high water line which do not contain coastal wetland AECs. (Classify all areas above the high water line not covered by coastal wetland AECs as Rural; classify areas below the high water line and all coastal wetland areas as Conservation.) Because of special difficulties involving access and the provision of centralized services such as sewer and water, densities on islands developed in the future should not equal or exceed that of the Transition Class (three (3) dwelling units per acre).

SELECTED POLICY: Carteret County Adopts Policy #1.

SECTION 2.1.3 WATER QUALITY AND FISHERIES RESOURCES

Large-scale farming activities, including corporate farming and peat and phosphate mining, may have an impact on water quality and fisheries resources in Carteret County. Currently, there are no large-scale peat or phosphate mining activities being conducted in Carteret County, but two (2) large-scale farming operations have been developed

here: the Open Ground Farm in Straits Township and Smyrna Farms near the community of Smyrna. Open Ground has cleared about 45,000 acres and grows corn and soybeans and raises cattle. The Smyrna operation is similar but on smaller scale.

Large-scale farming has many positive impacts on the County. It provides jobs, increases the tax base and brings revenue into the County from food and fiber sold. In addition, equipment dealers and suppliers benefit. On the other hand, wildlife habitat is lost. Wetland areas are reduced and many believe that fishing productivity is adversely effected.

There are basically four (4) issues that arise around the matter of large-scale farming in Carteret County.

- (1) drainage and runoff,
- (2) conversion of forested areas and forested wetlands to row crops and pasture,
- (3) sediment load, and
- (4) freshwater infiltration of receiving streams.

To a large degree these issues are inter-related. Farm owners should be encouraged to use Best Management Practices (BMP's) in preserving and managing their farms. Briefly defined, this means using drainage practices which slow the rate of flow and allow runoff to clean itself of some of its pollutant load before it drains into surface waters. The use of BMP's will help mitigate the potential problems listed above, and will also help protect the property owner's investment through the prevention of soil erosion.

Conversion of forested areas, and especially forested wetlands, is essential to put farmland into production. However, the harvesting of timber and the drainage of freshwater wetland areas on a large scale may

have significant impacts on surrounding surface waters. These impacts may be so large that recommended mitigation procedures are not adequate to address their effects (see page 33).

The UNC School of Journalism conducted a survey in early 1983 which asked a number of questions about corporate farming and its relationship to water quality and fisheries. Some 93 randomly selected Carteret Countians participated in the survey.

Fifty-seven percent of Carteret County responders felt that corporate farming provided jobs that helped the area's economy. However, a majority (63.4%) of responders said they would not like to see additional corporate farms locate in their area, and 55% said they did not want corporate farms in their area at all. (These results may reflect feelings regarding the more populated parts of the County rather than areas where corporate farms already exist, since only a small proportion of Carteret County's residents live in areas near corporate farms.)

Nearly 70 percent of Carteret County responders felt that big drainage projects on corporate farms hurt the fishing industry. (Eighty-five percent of all fishermen surveyed felt this way.) A surprising percentage (57.2) of Carteret responders felt that corporate farms should be subject to government regulations. Finally, an overwhelming majority of Carteret County responders (nearly 95 percent) felt that corporate farms should be required to pay for or correct any harm that drainage or land clearing causes to the fishing industry.

While the message inherent in these last three survey results is abundantly clear, the appropriate means of dealing with corporate farm impacts is anything but clear. The overwhelming message seems to be that agricultural drainage on a large scale is perceived as harmful to

the fishing industry and should be controlled through government regulations. Carteret County's fisheries industry (perhaps the most significant of any county in the State) is effected not only by large-scale farming activities, but also peat and phosphate mining in nearby counties. Agricultural activities are exempt from, and agricultural drainage into estuarine waters is only periferally addressed by, the Coastal Area Management Act. Land clearing and drainage in conjunction with agriculture is essentially exempt from CAMA as well. Carteret County does not have the jurisdiction or the expertise to adequately address these deficiencies in State regulations. However, the County can consider alternatives to be recommended to the State in addition to alternatives to be considered at the local level.

Another type of land alteration which can have a significant impact on water quality and fisheries resources is urban development. The major sources of urban runoff affecting Carteret County waters include upstream development in the Piedmont, the largely incorporated urbanizing areas on Bogue Banks, and other Carteret County municipalities. The runoff impacts of new development can also be addressed through drainage standards designed to allow runoff to cleanse itself before draining into surface waters.

Policy Alternatives

- (1) Recommend to the N.C. Department of Natural Resources and Community Development that proper enabling legislation be enacted to allow drainage standards to protect fisheries resources be developed and applied, through CAMA, or other legislation, for agricultural land use.

- (2) Develop County development standards for significant land altering activities, particularly agriculture and urban development. (New ordinance required.)
- (3) Establish a conservation buffer around large scale agricultural lands to work in conjunction with State or local drainage standards. (Land classification and/or zoning amendment required.)
- (4) Nominate remaining, valuable freshwater wetlands in the County as AECs (see fragile areas for recommended list). (Nomination to CRC needed.)
- (5) Designate lands adjacent to Primary Nursery Areas as Conservation on the Land Classification Map. (Adopt as part of land classification map and policy in Section 2.1.2.3.)
- (6) Designate freshwater wetlands as Conservation on the Land Classification Map. (Adopt as part of land classification map.)
- (7) Require a drainage plan and local permit for any land clearing in excess of 20 acres. (New ordinance or expansion of existing subdivision regulations required; additional staff needed for enforcement.)
- (8) Limit potential densities within the County jurisdiction in areas adjacent to estuarine waters. (Zoning amendments required.)
- (9) Develop and apply local drainage standards in areas where public or private community water and sewer services are necessary to support the density of development. (Adopt drainage standards and hire additional staff to implement.)
- (10) Designate a task force to work with the Division of Marine Fisheries on resource management issues. (Resolution necessary.)

SELECTED POLICY: Carteret County Adopts Policy #1, #6, and #10.

SECTION 2.1.4 FLOOD-PRONE AREAS

Flood-prone areas cover a large proportion of unincorporated Carteret County (see Map 3), particularly in eastern Carteret County, according to maps and information provided by the Federal Emergency Management Agency (FEMA). The Flood Insurance Program (administered at the local level by the County Building Inspection Department) offers protection against flood damages to property owners in exchange for that community's assurance that new construction in flood hazard areas will be regulated to minimize damage.

Policy Alternatives

- (1) To continue participation in the National Flood Insurance Program as a means to promote good land development practices and to protect the citizens of the County.
- (2) To discuss federal program standards with FEMA to explore non-structural alternatives to minimize flood damage.
- (3) Carteret County should avoid structural solutions to flood damage control and plan for non-structural alternatives to minimize flood damage.

SELECTED POLICY: Carteret County Adopts Policy #1, #2, and #3.

Implementation

The County Building Inspection Department (with the co-operation of the County Planner) will continue to enforce the Flood Insurance regulations for unincorporated Carteret County.

SECTION 2.1.5 HISTORIC AND ARCHAEOLOGICAL PROPERTIES

Carteret County, founded in 1772, is among the oldest counties in North Carolina. The N.C. Division of Archives and History has listed 145 sites in the County that are considered archaeologically significant. Of these, a total of 63 were recommended for testing for possible National Register potential. Because of legislative restrictions, the exact locations of these sites cannot be listed. However, it should be noted that in general, the known sites for Carteret County tend towards the rivers and major creeks. This situation reflects not only probability of site locations in particular areas, but also indicates what areas of the County have actually been scrutinized.

Historic preservation interests in Carteret County have largely been concentrated in Beaufort. Many other of the County's significant historic properties are located within the County's municipality boundaries and these are not subject to County regulation or control.

The following is a listing of properties in Carteret County which are on the National Register of Historic Places:

- Cape Lookout Station, Core Banks
- Fort Macon, Atlantic Beach
- Gibbs House, Beaufort
- Jacon Henry House, Beaufort
- Old Burying Ground, Beaufort
- Beaufort Historic District, Beaufort (see map)
- Portsmouth Village (see map)

The properties on the Study list in Carteret County are:

Rufus Bell House, Harlowe

Octagon House, Swansboro vicinity

Money Island (Archaeological site)

Oak Site (Archaeoloical site)

Additionally, the turn of the century County Courthouse is undergoing exterior renovation and repair.

Policy Alternatives

The County has, to date, played a relatively passive role in historic preservation activities. Historic sites in the County tend to be located in the municipalities and rural sites are scattered, remote and of low visibility. Alternatives include:

- (1) Encouraging local historical organizations to inventory potential National Register sites and submit them to the N.C. Division of Archives and History for National Register consideration.
- (2) Request the Division of Archives and History provide the County with a map, for planning purposes only, of significant archaeologic and historic sites for use in subdivision review. The Division of Archives and History could be contacted and asked to suggest mitigation procedures whenever such review indicated possible development impacts on such resources. (Would require administrative "check-off" procedure for subdivision submissions.)

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

Implementation

The County will rely on its staff and area residents to assist it in developing the appropriate information and tools for use in its planning programs. If policy number (2) is selected, this would include contacting the N.C. Division of Archives and History at the preliminary plat stage whenever proposed developments are scheduled for areas which may contain significant archaeological or historic resources.

SECTION 2.2

RESOURCE PRODUCTION AND MANAGEMENT

Agriculture, forestry, and fishing all play an important role in the economy of Carteret County. There are also significant deposits of peat in the County, although peat mining does not appear to be likely in the near future.

SECTION 2.2.1 PRODUCTIVE AGRICULTURAL LANDS

Issue Discussion

Because of the significance of agriculture in Carteret County (see Section 1.2.3, Agriculture), the identification of important and prime agricultural soils is a priority. The Carteret County Soil Conservation Services Board of Supervisors has identified soils in Carteret County that are most significant to agricultural productivity. They have been classed in two (2) categories:

| <u>Important</u> | | <u>Prime</u> |
|------------------|----------|--------------|
| Arapahoe | Pantego | Altavista |
| Augusta | Ponzer | Craven |
| Autryville | Rains | Goldsboro |
| Belhaven | Roanoke | Norfolk |
| Conetoe | Seabrook | Onslow |
| Dare | Tomotley | State |
| Deloss | Waska | |
| Lynchburg | | |

A generalized soils map (see Map 4) reveals that most of the important and prime farmland areas are in the eastern Townships of Merrimon, Straits, Smyrna, Davis, Stacy and Sea Level; the northern portion of Beaufort Township; and areas in northern White Oak and Newport Townships.

A random survey conducted as part of citizen participation requirements for the Land Use Plan revealed that 77% of the respondents (n=65) felt that farmland preservation should be a priority for the County. However, there are two identifiable "types" of farming in Carteret County--traditional family farming, and large corporate farming (discussed above). The trend among small farmers is toward a reduction in the number of owners, an increase in the size of farms, and little change in the number of acres in "family" production (page 13).

Small farms are much more likely to be converted to other uses than are large corporate farms. Those adjacent to urbanizing areas are vulnerable to conversion for residential development; those adjacent to corporate farms are likely candidates for consolidation as corporate holdings expand.

It should be recognized that such conversion is in direct response to economic considerations that make residential development or sale more financially advantageous than continued farming on a small scale.

Policy Alternatives

- (1) Prime and important farmland should be identified, and to the maximum extent feasible, classified as Rural. (Address on land classification map.)
- (2) Through the Agriculture Extension or other County Services, farmers should be informed of existing State laws, particularly tax laws, which benefit farmers and make it financially more attractive to continue farming.
- (3) Where development pressures exist in agricultural areas, use development controls (such as large lot zoning) and the provision and

location of public services to help preserve the rural character of the area. (Would require amendments to existing ordinances.)

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

SECTION 2.2.2 POTENTIAL MINERAL EXTRACTION

Issue Discussion

Peat is found in two (2) areas of Carteret County; one deposit on the Open Grounds Farm property and another in the Croatan National Forest. Research indicates that the deposits in the Open Grounds area are not of sufficient quantity to merit serious consideration for mining. In addition, land clearing activities at Open Grounds have apparently disturbed the deposits to the extent that they would not be suitable.

There are actually five (5) separate deposits of peat in the Croatan National Forest; only two (2) of which are in Carteret County. One site referred to as Croatan Pocosin contains about 5,200 acres of peat while the other known as the Millis Road Site has a little over 1,500 acres. Both sites have been recommended as natural areas by the Natural Heritage Program. At present, there are no known plans to mine either site.

Policy Alternatives

- (1) Since both areas in the Croatan National Forest have been identified as significant natural areas, the County discourages potential mining activity at either site and classifies both areas as Conservation.

- (2) Should the possibility of mining activities become more probable, the County supports a thorough analysis of environmental impacts of peat mining prior to the institution of mining activities.

SELECTED POLICY: Carteret County Adopts Policy #1.

General

Carteret County is a diverse county. Fishing and farming dominate in the east, and tourism and second home development has had a significant impact in the Beaufort, Morehead City and Bogue Banks area. In addition, the State Port Authority, its associated activities and other industrial development in recent years make up a substantial part of the County's economy.

The Carteret County Economic Development Council (EDC) actively promotes overall economic development in the County. The EDC acts as a focal point for prospective industries or businesses that express an interest in locating the County. The EDC provides information on the County such as site availability, utilities, labor force, etc. It also acts as a conduit to other local resources which may facilitate development.

The Chamber of Commerce, aside from advancing the interests of the business community, has in recent years become more active in tourism promotion. This includes operating a visitor information center, promotion mailouts and similar activities.

It is also anticipated that the County Civic Center located on campus of Central Technical College will provide a stimulus to the county's tourism-related business.

Because Carteret County's major industries have direct and indirect impacts on each other, it is important that the County develop policies which take these interrelationships into consideration.

Policy Alternatives

- (1) The County recognizes the economic value of tourism, agricultural, commercial fishing, manufacturing, military-related, retirement-related and State Port-related industries.
- (2) The County will continue to monitor the relationship between large-scale agriculture and commercial fishing resources through policies adopted in Section 2.1.3.
- (3) The County will continue its policy of assessing the environmental and quality of life impacts of proposed industries (see Section 2.3.11).
- (4) The County will continue to strive to attract industries and businesses which are compatible with the environment, which complement the existing infrastructure and which will provide diversified economic opportunities for Carteret County.
- (5) The County will require that major industrial developments shall submit a local environmental impact statement which would be reviewed by local officials and a special advisory committee for the purpose of informing County authorities of the potential environmental and economic impacts of the development.
- (6) County zoning should be instituted to keep the amount and type of development within the carrying capacities of public services and the environment.

SELECTED POLICY: Carteret County Adopts Policy #1, #2, #3, and #4.

There are several areas in unincorporated Carteret County which have the potential for growth and development in the next five to ten years (see Section 1.3.5, Areas Likely to experience major land use changes, and Section 1.7, Future Land Needs). Most notably these are:

- (1) The Beaufort-Morehead vicinity (residential growth, particularly near waterways; some commercial growth along U.S. 70 extending to and north of NC 24);
- (2) Along NC 24 and Bogue Sound and along NC 58 and the White Oak River (primarily residential development with some service commercial);
- (3) Harker's Island and small downeast villages, most notably Marshallberg, Davis, Atlantic and Sea Level (mixed residential and service commercial at Harker's; mostly residential in Downeast communities).
- (4) Radio Island (Industrial and Commercial Development).

The expected growth necessitates the development of policies regarding services needed to accommodate such growth. These include water, sewer, transportation, solid waste, law-enforcement, fire protection, educational facilities, drainage and recreation. The policy discussion for each of these services has been broadened to address existing needs as well. Special economic and community development issues, such as OCS Exploration, National Seashore Development, and Seasonal Population Extremes are also addressed.

SECTION 2.3.1 WATER AND SEWER SERVICES

Carteret County does not currently provide central water and sewer to any area within its jurisdiction. There are community water systems operating in both incorporated and unincorporated parts of the County, but central, public sewer systems are limited to Newport, Morehead City and Beaufort. The County does specify criteria by which centralized utilities should be provided for large scale developments through its Group Housing and Mobile Home Park Ordinances.

To date, there is no evidence of wide-spread public health problems resulting from the use of private well water, or community water in some cases, in conjunction with the use of private septic tanks or package treatment systems.

Policy Alternatives

Should the need for central water and/or sewer become evident in all or part of unincorporated Carteret County, the following alternatives could be considered:

- (1) The establishment of a County water and/or sewer Authority.
- (2) The establishment of a privately owned and operated water and/or sewer facility.
- (3) The establishment of a water and/or sewer cooperative.
- (4) The establishment of a County Utilities Department. (Would require bond referendum and creation of new Public Works/Utility billings departments.)
- (5) The establishment of a public sanitary district, separate from any government entity.
- (6) The establishment of a privately contracted arrangement for water and sewer services.
- (7) The establishment of a City/County cooperative extension agreement between the County and participating municipalities. (Would require additional staff and would depend on inter-governmental cooperation.)

SELECTED POLICY: Carteret County Adopts Policy #3, #5, #6, and #7.

If and when a need for central water and/or sewer becomes evident, Carteret County will consider the alternatives listed above which appear most realistic at that time.

Implementation

Through use of County zoning and other land use ordinances, planning for developments in the County should include consideration of water and sewage needs and the necessity of the County providing such services.

SECTION 2.3.2 PACKAGE TREATMENT PLANTS

The feasibility of providing public sewer treatment facilities to serve areas expected to experience development along Bogue Sound and the White Oak River is quite low. However, Bogue Sound has already begun to attract higher quality developments which will be served by package treatment plants, or possibly central sewer. Because package treatment plants are "left" to homeowners associations for maintenance, and because they appear to have a life capacity limited to 10 to 15 years, the County should consider methods to ensure that these systems function properly and do not pose a threat to the County's sensitive environment.

Looking to the future, a report prepared for the Town of Emerald Isle suggested that the municipality establish requirements for package treatment plants that would standardize the components used in systems, making it easier and more affordable for the Town to link individual treatment plants. This suggestion would be applicable to Carteret County as well.

Policy Alternatives

- (1) Carteret County should establish standards for the dedication of package treatment plant systems to homeowners associations which provide accountability for the maintenance of such systems.
(Amend group housing, mobile home park ordinances.)
- (2) The County should consider establishing standardized requirements for package treatment plants in order to make individual units compatible in a linked sewage treatment system.
- (3) Where feasible, large residential developments should be encouraged to tie into existing central sewer facilities. (Minor amendment to existing subdivision regulations.)

SELECTION POLICY: Carteret County Adopts Policy #1 and #3.

SECTION 2.3.3 TRANSPORTATION

Specific transportation issues are discussed in detail in Section 1.6.2, Constraints: Capacity of Community Facilities: Transportation. The issues and their policy alternatives are described below.

1. Third Bogue Banks Bridge: Policy Alternatives

The County can either support the construction of a third bridge to Bogue Banks, oppose it, or remain neutral.

SELECTED POLICY: Carteret County continues to support construction of Third Bridge to Bogue Banks.

2. White Oak River/N.C. 24 Bridge: Policy Alternatives

The County can request that DOT replace the bridge, that DOT put the bridge replacement on a study list, or remain neutral.

SELECTED POLICY: Carteret County continues to support the replacement Bridge over the White Oak River.

3. Core Creek Bridge Replacement: Policy Alternatives

The County can recommend to DOT that the bridge be replaced, that the bridge replacement be put on a DOT study list, or remain neutral.

SELECTED POLICY: Carteret County continues to support the replacement Bridge over Core Creek.

4. Beaufort-Morehead City Airport

The Beaufort-Morehead City Airport is of strategic importance because of its proximity to the State Port and the Bogue Banks area. The potential for OCS exploration and activity may increase this importance. However, the airport is becoming increasingly surrounded by residential development and some approach paths lie directly over heavily populated areas in the Town of Beaufort.

Policy Alternatives

- (1) Carteret County recognizes that existing conditions regarding the location and level of activity of the Beaufort-Morehead Airport may pose some degree of safety hazard and inconvenience, and supports efforts to improve the safety and minimize noise and hazard considerations.
- (2) The County strongly supports the upgrading of equipment and facilities at the Beaufort-Morehead City Airport. The County Government recognizes the importance of the Airport to the economic viability of Carteret County.

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

5. Major Thoroughfares Development:

It is generally agreed that the overwhelming importance of Carteret County's few major thoroughfares to its transportation system and economy dictate that safety hazards be minimized, conflicting land uses avoided, and that carrying capacities not be exceeded. There are a number of ways to achieve these goals.

Policy Alternatives

- (1) Institute zoning regulations in those areas described in Section 1.6.2(6) and not presently zoned;
- (2) Strongly encourage the State Department of Transportation to develop a limited access frontage road plan for U.S. 70 from Newport to Morehead City.
- (3) Consider the adoption of access standards affecting all subdivisions of two (2) or more parcels along major thoroughfares (U.S. 70, NC 24, NC 58 and NC 101)

- (4) Develop an off-premise sign control ordinance to regulate safety, health and adverse community appearance; and
- (5) Petition the State Department of Transportation to develop a comprehensive major thoroughfare plan for Carteret County.
- (6) Develop a new ordinance and/or modify existing ordinances to require screening along strip development.

SELECTED POLICY: Carteret County Adopts Policy #2, #3, #4, #5, and #6.

6. Navigable Waterways: Policy Alternatives

Commercial use of Carteret County's waters provides a valuable and important part to the County's economy. There are over 1,500 licensed commercial fishing vessels in the County. In addition, the Intra-Coastal Waterway runs through the County and a major port is located in Morehead City.

The County and Army Corps of Engineers dredge and maintain several channels and harbors in the County. These include the Port Channel and Turning Basin, Bulkhead Channel, Gallants Channel, Morgan Creek, Brown's Island and the Cape Lookout Channel. In addition, the County Harbor Authority oversees the operation of several Harbors of Refuge in the County. These are Cedar Island, Atlantic, Beaufort Harbor, Harker's Island, Salter Path and Sea Level. The Harbor Authority strives to achieve self-sufficient, environmentally sound harbors that best serve the needs of the community.

Another water use problem in Carteret County is the issue of siltation of the White Oak River. In recent years the

White Oak River Channel near the mouth of the River (in the Swansboro - Cedar Point area) has become increasingly narrow and shallow and thus more difficult and dangerous for fishing vessels to negotiate.

A recent study of the areas funded by the State of North Carolina determined that the siltation was apparently caused by the movement of small particles (sand up the River) in conjunction with natural wave action associated with the movement and erosion of the barrier islands in the area. It is suspected that the location of the Hwy. 24 bridge may have some influence on this problem.

SELECTED POLICY: Carteret County continues to support Harbors or refuge and maintenance dredging of existing channels and to encourage environmentally-acceptable means to improve the Waterway System.

Implementation

The County Harbor Authority has prime responsibility for overseeing the maintenance of County harbor waters. The Board of Commissioners will provide review and provide input as appropriate to the Army Corps of Engineers and the Authority's proposals.

SECTION 2.3.4 SOLID WASTE

Issue Discussion

Carteret County operates the community's only landfill. It is also utilized by all municipalities. Residents in unincorporated areas use the services of private contractors and an extensive green box system operated by the County. The County landfill is the final disposal location of all of these waste collection systems as well as for the building rubble and stumps that are generated as urban development proceeds in the County. The present landfill has just opened and is located on a 137-acre tract owned by the National Forest Service (Croatan National Forest). The new facility is expected to last ten years.

Policy Alternatives

- (1) Establish compactor-transfer stations to reduce solid waste bulk entering the landfill and reduce the volume of traffic to and from the landfill.
 - a. throughout unincorporated Carteret County (major capital expenditure), or
 - b. in the most highly populated areas of the County, adding additional stations in less populated areas as needs increase.(Major capital expenditures over time.)
- (2) Implement a resource recovery program to remove ferrous and non-ferrous metals, glass and newsprint from the solid waste stream.
- (3) Encourage private enterprises to institute recycling programs to reduce the quantity of metals and glass discarded.

SELECTED POLICY: Carteret County Adopts Policy #1, #2, and #3.

SECTION 2.3.5 EDUCATIONAL FACILITIES

As the County's population increases, there will be a subsequent rise in the number of school age children. Higher seasonal and year-round populations will create a demand for increased services, and new employees will be drawn into the area, many of them with school-age children. The County School Board should anticipate an upward shift in enrollments in the next decade.

Policy Alternatives

Carteret County can begin planning now for additional enrollments by considering the most desirable methods of funding additional classroom space. The County and State school planners should follow school enrollments closely over the next few years to determine the extent of the growth trend, and to determine suitable locations for new schools.

SECTION 2.3.6 DRAINAGE

Almost all new residential development in Carteret County will tend to locate along waterways -- Core Creek, the Newport River estuary, Bogue Sound and the White Oak River. The most significant environmental impact of such water-oriented development will be the results of storm-water runoff. The County currently has no drainage standards for residential development. If surface water quality is to be protected in areas expected to receive residential development, drainage standards which slow the rate of flow and allow runoff to reduce its pollutant load before draining into surface waters are a high priority.

Policy Alternatives

- (1) Carteret County should consider establishing stormwater runoff standards for new residential and commercial development, particularly in close proximity to estuarine waters and drainage ways. Requiring stormwater runoff controls on new residential and commercial developments will reduce the need for publicly financed drainage improvements as well. Standards for new residential and commercial developments should maintain existing drainage patterns. (Expand existing subdivision regulations to include drainage standards or pass new ordinance.)
- (2) Carteret County should consider prohibiting residential development with the 75-foot estuarine shoreline setback (see Section 2.1.1(e), Policy Alternatives).
- (3) Carteret County should discuss with N.C. Division of Environmental Management its present authority and ability to regulate runoff from urban development.

SELECTED POLICY: Carteret County Adopts Policy #1 and #3.

SECTION 2.3.7 BEACH AND WATER ACCESS

Carteret County has experienced a rapid growth in tourism in recent years. This growth has put added pressure on the existing water recreation access points in the county. Boaters, fishing enthusiasts, swimmers and others all need access points to both the beach, sounds, and rivers.

Most potential access points to beaches in the County are under the jurisdiction of incorporated municipalities (Atlantic Beach, Indian Beach, Pine Knoll Shores and Emerald Isle) or within the Cape Lookout

National Seashore Park. Therefore, the County has very little authority or jurisdiction in the matter of beach access, although two small areas on Bogue Banks are still unincorporated.

However, the County does have an interest in promoting access to the sounds and rivers. The County Parks and Recreation Master Development Plan outlined several potential access for site development.

As is the case with commercial boating, the recreational use of the County's waters for fishing, sailing, skin diving, skiing and general boating is an important part of the overall tourism business. Over 5,700 private boats are licensed in Carteret County; in addition, during summer months many more boats are brought into the County from other areas.

Another aspect of recreational water use are the charter fishing and sightseeing boats. Most of these are based on Morehead City and provide fishing excursions to ocean fishing areas. Several fishing tournaments are held throughout the year; most notably the King Mackerel and Blue Marlin Tournaments.

Public access points for recreational boats are extremely limited. Another policy section of this Plan addresses the issue of sound and beach access.

Policy Alternatives

- (1) Revise the Subdivision Ordinance to require the dedication of frontage for water access on new subdivisions with frontage of $\frac{1}{2}$ mile or greater on the water;
- (2) Inventory existing unused public land with water frontage to determine its suitability for a water access facility;

- (3) Conduct a feasibility study to determine the appropriateness of developing a water access site at:
 - a. The spoils site on the north side of U.S. 70 along the Beaufort-Morehead City Causeway.
- (4) Seek grant funds from the State of North Carolina to develop sound and river access points;
- (5) Examine the suitability of developing access points on land under County jurisdiction on Bogue Banks.

SELECTED POLICY: Carteret County Adopts Policy #2, #3, #4, and #5.

Implementation

The County would pursue the implementation of these policies with three basic tools; first, continued enforcement of the County Subdivision Regulations requiring dedication of public access points in new subdivisions with water frontage; second, the County Parks and Recreation Department will support the development of sites in accordance with the County Parks and Recreation Master Plan; and the County will seek grant funds (if and when they become available) from the State of North Carolina for the development of sound access points.

SECTION 2.3.8 NATIONAL SEASHORE DEVELOPMENT

The Federal Government, through the Department of Interior's National Park Service, is in the process of developing the Cape Lookout National Seashore. The National Seashore will be located on the essentially undeveloped barrier islands known as Shackleford Banks, Core Banks and Portsmouth Island. The National Seashore's Headquarters will be located on the eastern portion of Harker's Island.

Once the Seashore project is fully developed by the National Park Service it is anticipated that 100,000 to 150,000 persons will visit annually for fishing, camping and a wilderness experience. These visitors will travel to the National Seashore on existing or potential future ferry service from Harker's Island, David and Atlantic.

There is currently relatively little tourist-related commercial development in Eastern Carteret County. It is anticipated by National Park Service personnel that as the National Seashore develops and visitation increases, campgrounds, gift shops, motels and other commercial tourist-related development will occur. Likely areas for this development are Harker's Island, Davis, Atlantic, Cedar Island, Marshallberg and Sea Level.

Policy Alternatives

The Cape Lookout National Seashore potentially can have a very significant impact on the economy and development of Carteret County. An alternative to the policy suggested below would be to remain neutral, not plan for its development and not anticipate what type of demands the Seashore and its visitors may have on the County. This alternative was deemed to be inappropriate considering the County's commitment to land use planning and tourism promotion and development.

SELECTED POLICY: Carteret County will continue to acknowledge and support the presence of the park as a natural resource to be appreciated and enjoyed by residents and visitors alike.

Implementation

The County Board of Commissioners, County Planning Commission, County Economic Development Council and Chamber of Commerce all will continue to work in concert with the National Park Service to assure that the Seashore's assets to the County are maximized and negative impacts avoided where possible.

SECTION 2.3.9 MILITARY ACTIVITY

Issue Discussion

The military is an important aspect of life in Carteret County. The Marine Corps Air Station in Cherry Point in Craven County employs about 1,500 Carteret Countians in civilian positions (including the Naval Air Re-work Facility). There are a sizable number of military facilities in the County including Bogue Air Field, Atlantic Air Field, the Coast Guard Stations at Emerald Isle and near Ft. Macon. Camp Lejeune, home to over 40,000 military personnel, is located in neighboring Onslow County.

One of the most significant or visible aspects of the military's presence in the County are aircraft training flights. Low level flights adjacent to urbanized areas often present conflicts; this issue is particularly troublesome because often the urban development occurred after the location of the Air Field was established.

To address this issue the Department of Navy has developed an Air Installation Compatibility Use Zone (AICUZ) Program. The overall purpose of the AICUZ is to protect the mission of the air installation and at the same time give consideration to the welfare of the community. Essentially, the AICUZ designates geographic areas or "zones" where certain types of land development should be restricted. Only a small portion of Carteret County adjacent to the MCAS - Cherry Point is "AICUZ - zoned". For the most part these zones are isolated unsettled areas in the Croatan National Forest.

More densely populated areas around Bogue Field including the Towns of Emerald Isle and Cape Carteret do have areas designated for restricted land development; Atlantic Field (located near the community of Atlantic) was not included in the AICUZ because only a few rotary wing aircraft use the field.

Recent crashes (including one in Morehead City resulting in one death) have stimulated public concern over military flight activity. Local government representatives of Carteret County, Morehead City and Cape Carteret, among others, have met intensively with their military counterparts regarding the issue of approach paths over populated areas.

The U.S. Marine Corps is investigating the establishment of a Harrier Jet Aircraft training facility in Jones County.

Other points at issue include possible incompatibility of land uses near air fields (both military and non-military) and night flights (particularly at Bogue Field).

Policy Alternatives

While it is recognized that national security interests take precedence over local policy when conflicts occur, the following alternatives are options for the formal expression of County policy preferences.

- (1) Request that the military services using air fields in and around Carteret County restrict air flights over populated areas, including isolated communities such as Smyrna and Atlantic.
- (2) Establish a policy opposing any further expansion of either Bogue or Atlantic air fields.
- (3) Classify land in hazardous or noisy areas (as determined by the County) around the airfields in low intensity land classifications, such as Rural, Community or Conservation, and establish a policy prohibiting the reclassification of such lands as either Developed or Transition. Consider formal zoning of such areas to reflect this policy.
- (4) Establish a policy requesting the phasing out of Bogue Field as area population increases.
- (5) Recommend that an 11 p.m. curfew be established at Bogue and Atlantic airfields for night training flights.
- (6) County officials will continue to work with representative, of the military to establish further safety policies.

SELECTED POLICY: Carteret County Adopts Policy #3 and #6.

Camp Lejeune, in nearby Onslow County, is home to over 40,000 military personnel troops and equipment are transported through the SPA at Morehead City, resulting in, at times, heavy military use of U.S. 70

and N.C. 24. These impacts may increase if the planned Department of Defense Decontamination Facility is established on Radio Island.

Policy Alternatives

- (1) Carteret County should request that NCDOT conduct an analysis of military and civilian traffic volumes on N.C. 24.
- (2) Carteret County officials should, in conjunction with their military counterparts, establish a policy or policies on military vehicular movement in Carteret County.

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

SECTION 2.3.10 OUTER CONTINENTAL SHELF (OCS) EXPLORATION

Plans have been announced by several oil companies to conduct exploratory drilling for oil and gas off the Coast of North Carolina. At the time of the preparation of this plan the three sites nearest to Carteret County most likely to be used for drilling are 38 miles east of Cape Hatteras (leased by Chervon, 49 miles east of Cape Lookout (leased by Arco) and 40 miles southeast of Wilmington (leased by Gulf). It is generally anticipated that land support facilities for the North Carolina off-shore exploration will be based in the Morehead City-Beaufort area.

Environmental Review (ER) prepared in conjunction with the planned exploration described the expected onshore impacts. It should be noted that activities described in the ER, and briefly recounted here, deal only with the exploration activities and do not address potential impacts should a major find be made. The nature and magnitude of any onshore activities as the result of a major find are not possible to

predict at this time. Unforeseen variables such as the world oil market, the size of the find and whether it is oil or gas can have an impact on such onshore facilities.

A report entitled Outer Continental Shelf Development and the North Carolina Coast: A Guide for Local Planners (funded by the Coastal Energy Impact Program) (CEIP) describes anticipated impacts of OCS activities on Coastal communities and suggests ways that local governments can best deal with these impacts. There are several key points of interest listed in the CEIP report and repeated here for informational purposes.

1. Since 1974, the Department of the Interior has operated under an accelerated program of leasing to permit oil and gas exploration of the Outer Continental Shelf.
2. No reliable analysis of the impacts of OCS Development (beyond the exploratory phase) are possible until discovery of economically recoverable oil and/or gas resources and identification characteristics.
3. The greatest amount of offshore activity, and thus the greatest potential for onshore impacts, is during the field development stage.
4. Staging and support facilities tend to cluster in developed harbors, providing employment and added business while often producing moderate environmental effects and conflicting with existing harbor uses.
5. The scope and impacts of OCS activity will vary from region to region, depending on whether the region has established offshore activity (as in the Central and Western Gulf of Mexico, and the Southern California area) or is a "frontier" region (as in the North Atlantic and the South Atlantic areas), whether the communities for onshore sites are urbanized or rural, and the characteristics of existing economic activity and area environmental conditions.
6. After a commercially valuable oil and/or gas find is made, one of the critical questions is how to transport it to shore.
7. The need for large-scale facilities (oil refineries, platform fabrication yards, and petrochemical complexes) depends on a

complex array of worldwide market factors rather than the development of a specific lease area.

Local governments face many challenges in attempting to prepare for OCS impacts. Principally these are the provision of public services, the availability of adequate facilities properly situated and housing. It is important that lines of communication be established and maintained between the offshore industry, the local government and the general public.

Policy Alternatives

- (1) A Local OCS Management Task Force should be established to work with the Oil and Gas Industry. The principal purposes of this Local Task Force should be to:
 - a. Assess the likely impacts of proposed OCS activities on local governments;
 - b. Suggest to local governments techniques they may use to best manage such development; and
 - c. Act as a conduit between oil and gas companies, local governments and the general public.
 - d. Pursue actions oil and gas companies could take to mitigate the effects of OCS development.
- (2) The local governments of Atlantic Beach, Morehead City, Beaufort and Carteret County should have representation on this Task Force. In addition, representatives of the Economic Development Council, the Division of Coastal Management, Chamber of Commerce, Division of Marine Affairs and local citizens with special knowledge on experience in OCS should be appointed.

(3) The Task Force should be established with the onset of significant exploratory activity.

SELECTED POLICY: Carteret County Adopts Policy #1 and #2.

SECTION 2.3.11 PORT DEVELOPMENT

A proposal, in late 1981, for development of a coal storage and loading facility on Radio Island sparked opposition from interested parties in the County. The lack of adequate rail access, the potential environmental problems associated with coal and an inappropriate land classification led to the preparation of an Area Development Plan for Radio Island. The ADP was reviewed and approved by a Task Force appointed by the Governor representing Atlantic Beach, Morehead City, Beaufort, Carteret County, the State Department of Commerce, Natural Resources & Community Development and the Department of Transportation.

The Task Force recommended that Radio Island be reclassified to a rural-port classification and that the County's Zoning Ordinance be strengthened to give more control over development on the Island. The Island has been zoned "Port-Industrial" since 1962; an indication of the County's longstanding intent to have the Island developed for some type of port-related industrial use.

As part of its study of the Radio Island issue, the Task Force also oversaw a study of rail transportation problems associated with the movement of large quantities of bulk goods through the SPA. A study of the problem by the N.C. Department of Transportation concluded that the movement of in excess of three million tons of coal per year through Morehead City would cause serious delays and interruptions to the community that simply were not acceptable. The N.C. DOT study suggested

that some type of pipeline slurry of coal through Morehead City would be more acceptable. This pipeline would terminate at the SPA site and thus "free" Radio Island for other uses.

After the Task Force's Area Development Plan and Transportation Study, the Carteret County Planning Commission has amended the Zoning Ordinance to allow the County greater control over industrial development on Radio Island.

The new amendment to the Zoning Ordinance establishes procedures and requirements for a mandatory Special Use Permit within the Port-Industrial District (Radio Island). In order to obtain a Special Use Permit, the Board of Commissioners must make the following findings regarding the proposed industrial use:

- (a) That the Special Use will not materially endanger the public health, public safety, adjacent water and air resources or environment if located where proposed and developed according to the plan as submitted and approved; and
- (b) That the Special Use meets all the requirements, conditions and specifications of this ordinance; and
- (c) That the use will not substantially injure the value of adjoining or abutting property, or that the use is a public necessity; and
- (d) That the location and character of the use if developed according to the plan as submitted and approved will be in harmony with the area in which it is to be located and in general conformity with the plan of development of the zoning district and its environments; and
- (e) That either adequate water, sewer and safety equipment and facilities are either present or are proposed and will be constructed to adequately provide for and protect the adjoining areas; and
- (f) That adequate public or private transportation means and facilities are present at or near the site or are proposed and will be carried out by or on behalf of the applicant to serve the site and the activities and uses on the site so as not to endanger the safety or unduly disrupt the normal activities of

nearby property owners or the citizens of nearby communities through which the transportation system must pass; and

- (g) The proposed use would not have an adverse environmental impact on water and air resources.

Policy Alternatives

- (1) Carteret County will continue to enforce the provisions of its Port-Industrial Special Use Permit requirements, and if necessary, further refine them to ensure the public health, welfare and safety of its citizens.
- (2) The County should consider re-establishing the Radio Island Task Force, or establishing a new task force, to deal with ongoing issues related to port development.

SELECTED POLICY: Carteret County Adopts Policy #1.

SECTION 2.3.12 SEASONAL POPULATION EXTREMES

Carteret County has developed into a major tourist destination point for people seeking to enjoy water-related recreational activities. Much of this growth has occurred in the last five (5) years. Estimates by the County Economic Development Council (EDC) set the total visitation at about 1.75 million, mostly from late April to Labor Day.

Many of these visitors rent or own housing in the County. There are approximately 3,000 condominiums complete or under construction (with others still in the planning stages) and over 5,000 mobile homes in the County. Seventy-five percent of the existing or under construction condominiums are on Bogue Banks (in the Towns of Emerald Isle, Pine Knoll Shores, Atlantic Beach and Indian Beach). Atlantic Beach alone has 700 mobile homes.

When analyzed, seasonal population increases within a community have both positive and negative impacts. On the positive side, of course, is the expenditure of money for goods and services (and subsequent sales tax revenue for the local government), employment of people in recreational and tourism business and with the exception of traffic congestion related problems the negative impacts on public services appear to be minimal. Traffic congestion and the high cost of living are the most critical of problems associated with the seasonal tourist population. Congestion is not only a nuisance to the general public, but more importantly presents a real danger when emergency situations arise.

In addition, visitation to the Emergency Room at Carteret General Hospital is increased during the summer months and the demands on the beach community's reserve and emergency services is increased. Criminal Court case loads and Jail population are also increased due to the increased activity.

The new County Civic Center is expected to benefit from the seasonal population growth as well as generate "off-season" tourist and convention visitations.

Policy Alternatives

- (1) Carteret County will continue to address the effects of seasonal population extremes through its efforts to improve, or to seek the improvement of:
 - a. crucial transportation linkages such as bridges, and major thoroughfares (see alternative policies in Section 2.3.3 and discussion in Section 1.6.2),
 - b. beach and water access facilities (see alternative policies in Section 2.3.7), and

- c. county services and county-related services experiencing direct impacts from seasonal population extremes, such as emergency hospital care (see Sections 1.6.6 and 1.6.9).
- (2) The County will strive to manage tourist, seasonal and second home development to assure environmentally sound growth (reference: Group Housing Ordinance, Land Protection Ordinance, Beach Access Ordinance, Mobile Home Park and Camp Park Ordinance, Hurricane Evacuation, Hazard Mitigation and Post Disaster Plan; see Section 1.4).
- (3) The County will continue to work closely with the municipalities in the County to assure that each local government has the best possible resources to meet the needs of tourist/seasonal development.

SELECTED POLICY: Carteret County Adopts Policy #1, #2 and #3.

Implementation

Coordination and inter-governmental communication is an integral part of implementation of this policy. Tourist and visitors cross numerous jurisdictional boundaries in their visits to the County and thus create different challenges, opportunities or problems in each of these communities.

Workshops, seminars, public hearings and Board meetings are always available to foster intergovernmental cooperation to address matters related to the seasonal population.

SECTION 2.3.13 COMMITMENT TO STATE AND FEDERAL PROGRAMS

Overview

Carteret County has been involved in a variety of State and Federal programs in recent years that impact the development of the County.

Among these are working with the State Ports Authority, development of the Cape Lookout National Seashore, maintenance of the Intra-Coastal Waterway, cooperation with military facilities in the County, participation in the Federal Flood Insurance Program, the Croatan National Forest and Outer-Continental Shelf Exploration.

Possible Policy Alternatives

Coordination between all levels of government is essential in the implementation of resource management programs. The intertwining of jurisdictional authority and the complexity of many problems would dictate that intergovernmental coordination and communication be constantly stressed.

Policy

Commitment to State and Federal programs:

The policy of the County with regards to Federal and State programs is to continue to support and participate in Federal and State programs that are beneficial to the County and to question and oppose those that are not.

Implementation

The County Manager will have primary authority for overseeing the participation, commitment and evaluation of State and Federal Programs which affect the local Community.

Issue Discussion

This is a particularly complex issue to define and address. Carteret County is among the fastest growing coastal counties, and as such is experiencing a "boom" in recreational activity, second home development and associated tourist-related commercial activities.

Each of the eight incorporated municipalities in Carteret County exercises their own zoning and subdivision authority and in most cases extraterritorial jurisdiction of zoning and subdivision regulations for a distance of up to one mile beyond their corporate boundaries. Land development decisions made in one jurisdiction clearly can impact on other jurisdictions. This is particularly true on Bogue Banks where four municipalities and the County have jurisdiction. Many of the issues discussed in this Plan overlap local, State and federal jurisdictional boundaries, often with "fuzzy" lines of authority or responsibility.

Policy

The County Government will continue to encourage intergovernmental cooperation to address multi-jurisdictional growth management issues.

Implementation

There are several mechanisms in place to assist in the implementation of this policy; first, the County Planning Commission has municipal representation and secondly, there is an association of Bogue Banks municipal officials. Other multi-jurisdictional committees have been formed from time to time to address specific land development issues.

These include the Radio Island Task Force, the Fall of 1982 Workshop on condominium development impacts, and the current Hurricane Evacuation, Mitigation, and Post Disaster Plan, which involves the County and six municipalities.

SECTION 2.4

CONTINUING PUBLIC PARTICIPATION

SECTION 2.4.1 PUBLIC PARTICIPATION DURING THE LAND USE UPDATE PROCESS

The Carteret County Board of Commissioners appointed an Ad Hoc Committee to work with the Consultant and County Planner in the Update process. Membership of the Ad Hoc Committee included the County Board of Commissioners. The overall purpose of the Ad Hoc Committee was to oversee the work of the Consultant, review the contents of the draft and make recommendations to the Board of Commissioners.

Several Ad Hoc Committee meetings were held during the preparation of the Update. These meetings allowed the public to hear about and comment on the Plan. In addition, a mailing list of nearly fifty interested persons or organizations was used. The Consultant made presentations (both formally and informally) to interested groups or organizations in the County. These included the Chamber of Commerce, Economic Development Council and a citizen environmental lobby group. Also, a survey of public attitude toward development and planning issues were sent to two hundred randomly selected County citizens. Results of this survey have been incorporated within relevant policy statements. A meeting was also held in Smyrna (co-sponsored by the Carteret Crossroads organization) to gather comments from citizens in the eastern part of the County. The local newspaper publicized upcoming meetings and reported the results of the meeting.

A public forum was held on the revised Plan in May, 1984. This well-attended meeting produced largely constructive suggestions, many of which were incorporated in the plan. Subsequent public meetings were held in October 1984 and February 1985, and many suggestions generated at these meetings are also reflected in the plan.

SECTION 2.4.2

CONTINUING PUBLIC PARTICIPATION

Several mechanisms exist for continued participation on issues related to environmental planning and management in Carteret County. The County Planning Commission reviews proposals for subdivisions and zoning. The Board of Commissioners from time to time addresses issues related to development or environmental management. Board meetings are open for public comment.

SECTION 3.0

LAND CLASSIFICATION SYSTEM

The Land Classification Map is an important part of the Land Use Plan. It offers a visual portrayal of policies adopted by the County and provides a tool for projecting which areas of the County should be developed and which should be left reserved for conservation. It should be noted that the Land Classification Map does not supersede a local government's zoning or subdivision authority.

The following are the land classifications definitions as utilized by the Land Classification Map.

1. Developed - Areas meeting the intent of the developed classification are currently urban in character where minimal undeveloped land remains and have in place or are scheduled for the timely provision of the usual municipal or public services. Urban in character includes mixed land uses such as residential, commercial, industrial, institutional and other uses at high to moderate densities. Services include water, sewer, recreational facilities, streets and roads, police and fire protection. In some instances an area may not have all the traditional urban services in place, but if it otherwise has a developed character and is scheduled for the timely provision of these services, it still meets the intent of the developed classification. Areas developed for predominantly residential purposes meet the intent of this classification if they exhibit existing high to moderate densities such as:

- (1) at or approaching a density of 500 dwelling units per square mile, or

- (2) are clustered at a density of three (3) or more dwelling units per acre, or
- (3) where the majority of lots are 15,000 square feet or less, and are provided or scheduled to be provided with the traditional urban services, and/or
- (4) have permanent population densities approaching or exceeding 2000 persons per square mile and seasonal population may swell significantly.

Local governments may subdivide the developed class into subclasses:

- 1. developed multi family residential,
- 2. developed single family residential,
- 3. developed commercial, and
- 4. developed industrial.

These are examples. In applying the developed class or subclasses, the local government should discuss how, when and where it will provide the services necessary to support the needs of an urban area. This class is designed to illustrate urban intensity development and services necessary to support it.

Developed - Public Lands: The purpose of this class is to designate State or Federal lands which meet the intent of the Developed Classification, and to indicate the County's endorsement of present usage.

- 2. Transition - The purpose of the transition class is to provide for future intensive urban development on lands that are suitable and that will be provided with the necessary urban services to support intense urban development.

Areas meeting the intent of the transition classification are presently being developed for urban purpose or will be developed in the next five to ten years to accommodate anticipated population and urban growth. These areas are in, or will be in a "transition" state of development going from lower intensity uses to higher intensity uses and as such will eventually require urban services.

- (1) Areas classified transition will provide lands for intensive urban growth when lands in the developed class are not available. Transition lands must be able to support urban development by being generally free of physical limitations and be served or readily served by urban services. Urban development includes mixed land uses such as residential, commercial, industrial, institutional, and other uses at or approaching high to moderate densities. Urban services include water, sewer, streets and roads, police and fire protection that will be made available at a time development occurs or soon thereafter. Permanent population densities in this class will be approaching 2000 persons per square mile and seasonal population may swell significantly.

- (2) In choosing land for the Transition class, such land should not include:

- A. Areas with severe physical limitations which would make the provision of urban services difficult or impossible,
- B. lands which meet the definition of conservation,

- C. lands of special value (unless no other alternative exists) such as productive and unique agricultural lands, forest lands, potentially valuable mineral deposits, water supply watersheds, scenic and tourist resources including archaeological sites, habitat for important wildlife species,
 - D. areas subject to frequent flooding,
 - E. areas important for environmental or scientific values,
 - F. lands where urban development might destroy or damage natural systems or process of more than local concern, and
 - G. lands where intense development might result in undue risk to life and property from natural or existing man-made hazards.
- (3) If any designated area of environmental concern is classified transition a definitive explanation shall be included stating why the area is felt to be appropriate for high density development.
- (4) Predominantly residential areas which meet or will meet the intent of the transition classification if it exhibits characteristics such as:
- A. are at or are approaching a density of 500 dwelling units per square mile, or
 - B. are clustered at a density which will meet or exceed three dwelling units per acre, or

- C. are where the majority of lots are 15,000 square feet or less and which are provided with or will be provided with the necessary urban services to support high intensity development, and
- D. in most cases the Transition class will be adjacent or contiguous to the Developed class.

The developed or transition classes and subclasses should be the only areas under active consideration by the local government for intensive urban development requiring urban services. In applying the transition class or subclasses the local government should describe how, when and where it will provide services necessary to support the needs of this intense land class. If the local government intends to allow the private provision of urban services such as sewage package treatment systems, community water systems, private or rural fire protection, private garbage pick up, etc. then the local government should also discuss how it will ensure these private services will be provided so as to avoid unnecessary future public expenses. This class is designed to illustrate emerging and developing urban areas and to help local governments ensure adequate urban services will be provided to support such development.

- A. Transition - Residential: This subclass designates lands which meet the criteria for the transition class and which are presently being developed or are expected to be developed in the next five to ten years primarily for residential purposes. Public services normally provided to such areas will include, at minimum, law enforcement, fire protection,

solid waste disposal, and road maintenance. Private services would normally include, at minimum, water; sewage disposal (septic tank, package treatment, or central sewer - see Sections 2.3.1 and 2.3.2); and in some cases solid waste disposal.

B. Transition - Commercial: This subclass designates lands which meet the criteria for the transition class and which are presently being developed or are expected to be developed in the next five to ten years primarily for commercial purposes. Public services normally provided to such areas will include, at minimum, law enforcement, fire protection, solid waste disposal, and road maintenance. Private services include, at minimum, water; sewage disposal (septic tank, package treatment plant, or central sewer - see Sections 2.3.1 and 2.3.2); and in some cases solid waste disposal.

3. Community - The purpose of the community class is to provide for clustered, mixed land uses at low densities to help meet the housing, shopping, employment and other needs in rural areas.

Areas meeting the intent of the community class are presently developed at low densities which are suitable for private septic use. These areas are clustered residential and/or commercial land uses which provide both low intensity shopping and housing opportunities and provide a local social sense of a "community". Very limited municipal type services such as fire protection and community water may be available, but municipal sewer type systems

are not to be provided as a catalyst for future development. In some unusual cases sewer systems may be possible, but only to correct an existing or projected public health hazard. Areas developed at low density in a cluster meet the intent of the community class if they exhibit characteristics such as:

- A. Where densities are less than or at 500 dwellings per square mile, or
- B. Where few residential development densities meet or exceed three (3) dwellings per acre, or
- C. where most residential lot sizes are 15,000 square feet or greater, and/or
- D. population densities will be low, such as 640 persons per square mile (one per acre).

It should be stressed that the community class applies to clustered low intensity development in a rural landscape. This development is usually associated with crossroads in counties. Some "communities" may have or may require municipal type services to avert an existing or anticipated health problem. Even though limited services may be available, these areas should not be shown in the higher intensity land classes, as the major characteristic which distinguishes community with limited services from the developed and transition classes is that services are not provided to stimulate intense development in a rural setting, but rather to neutralize or avert health problems. Due to the small size of most communities they will appear as small areas in a dispersed pattern on the county land classification map. This class illustrates small, dispersed groupings of housing and commercial land uses in a rural landscape.

4. Rural - The purpose of the rural class is to provide for agriculture, forestry, mineral extraction and various other low intensity uses on large sites including low density dispersed residential uses where urban services are not and will not be required. Any development in this class should be compatible with resource production and should not significantly impair or permanently alter natural resources.

A. Rural/Residential - The purpose of this class is to provide for low density, single family uses within rural areas where lot sizes are large and where densities do not require the provision of urban type services. Private septic tanks and wells are the primary onsite services available to support residential development, but fire, rescue squad and sheriff protection may also be available.

B. Rural/Port - The rural/port classification is used to identify areas that are appropriate for development for port or water-related facilities and that will not require the provision of public services such as water and sewer. Light manufacturing and transportation-related facilities would also be appropriated uses in this classification. Potentially "heavy polluting" or dangerous uses, such as oil refineries or liquified gas terminals, are not appropriate in this land class, but may be appropriate in Transition or Developed areas where adequate public services are available to deal with their potential problems.

C. Rural/Agricultural - The purpose of this class is to retain significant agricultural and forestry resources in their productive states. Any development in this class should be compatible with resource production and should not significantly impair or permanently alter natural resources. Areas meeting the intent of this classification are appropriate for or are presently used for agriculture, forestry and similar allied uses. Very low density dispersed, single family residential uses may be found in such areas, but population densities will be very low, less than one person per acre.

D. Rural/Agricultural - Public Lands: The purpose of this class is to designate state or federal lands which meet the intent of the Rural/Agricultural land classification and to indicate the County's endorsement of present usage.

5. Conservation - The purpose of the conservation class is to provide for the effective long-term management and protection of significant, limited, or irreplaceable areas. Management is needed due to the natural, cultural, recreational, scenic or natural productive values of both local and more than local concern.

Areas meeting the intent of this classification include:

- (1) AEC's, including but not limited to public trust waters, estuarine waters, coastal wetlands, etc. as identified in 15 NCAC 7H;
- (2) other similar lands, environmentally significant because of their natural role in the integrity of the coastal

region and include but are not limited to bottom land hardwoods, pocosins, swamp forests, areas that are or have a high probability of providing wildlife habitat, forest lands that are essentially undeveloped and lands which otherwise contain significant productive, natural, scenic or recreational resources.

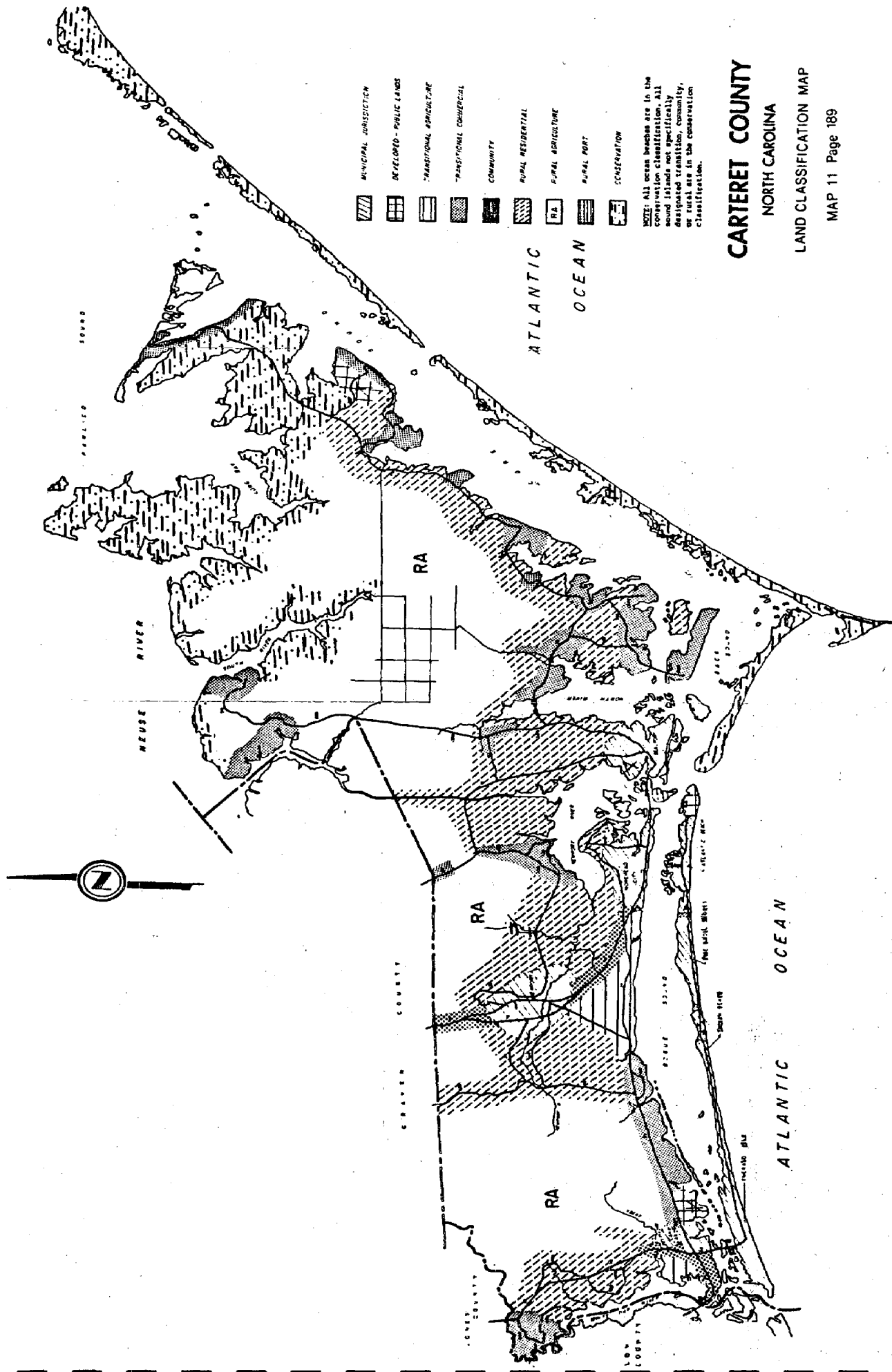
The conservation class is designed to illustrate the natural, productive, scenic, and recreational features of the coastal zones which make the region a desirable place in which to live, work and visit. As such the conservation class should be applied to areas that because of their unique, productive, limited or natural features should be either not developed at all (preserved) or if developed, done so in an extremely limited and cautious fashion. Urban services, public or private, should not be provided in these areas as a catalyst to stimulate intense development. In most cases limited onsite services will adequately support any limited development within this class and will also protect the very features which justify the area's inclusion in the conservation classification. Mapping of AEC's in the conservation class on the local government's land classification map should be accomplished with the understanding that AEC's are intensively defined by their characteristics in 15 NCAC 7H, and therefore maps only indicate approximate locations and are not definitive enough for site specific regulation purposes. Policy development in the land use plan should acknowledge the intent of this class and policies should be consistent with the function of areas shown in the conservation class. All sound islands not shown otherwise are in the Conservation classification.

A. Conservation - Public Lands: The purpose of this class is to designate State or federal lands which meet the intent of the conservation classification and to indicate the County's endorsement of present usage.

It should be noted that each of the incorporated municipalities in Carteret County, including Emerald Isle, Atlantic Beach, Newport, Morehead City, Beaufort, Pine Knoll Shores, Indian Beach and Cape Carteret have their own CAMA Plans. Land Classification information for their communities is not included on this land classification map.

Relationship of Policies & Land Classification System

The major policy statements in this Plan reflect the County's interests and concern in the critical development and environmental issues facing Carteret County. Many policy alternatives reference land classification, and the final form of the land classification map will reflect policy decisions on issues as diverse as military aircraft activity and fragile areas identification. Because of the scale of the land classification map, an attempt has been made to describe the classification of certain crucial areas in the text of the plan.



CARTERET COUNTY
NORTH CAROLINA
LAND CLASSIFICATION MAP
MAP 11 Page 189

NOTE: All ocean beaches are in the conservation classification. All sound islands not specifically designated transition, community, or rural are in the conservation classification.

LISTING OF STATE AND FEDERAL REGULATIONS

I. STATE LAWS

A. Statutes Directly Regulating Land or Water Resources Use

(1. Criminal Provisions)

- G.S. 14-128.1 Unauthorized taking, etc., of certain ornamental plants from lands of another
- G.S. 14-129 Taking off wild plants from lands of another
- G.S. 14-129.1 Selling or bartering of Venus Fly Trap
- G.S. 14-130 Trespass on public lands
- G.S. 14-131 Trespass on land under option by the Federal Government
- G.S. 14-133 Erecting artificial islands and lumps in public waters
- G.S. 14-134.1 Depositing trash, garbage, etc., on lands of another or in waters of the State

(2. General Regulations)

- G.S. 68-42 et seq. Stock along Outer Banks
- G.S. 74-39 et seq. Mining Registration Act of 1969
- G.S. 74-46 et seq. Mining Act of 1971
- G.S. 76-40 Obstruction of Navigable Waters
- G.S. 77-12, 13, 14 Obstruction in Streams
- G.S. 87-81 N.C. Well Construction Act
- G.S. 104 B-3 et seq. Protection of Sand Dunes along Outer Banks
- G.S. 143-211.11 et seq. Regulation of use of Water Resources
- G.S. 113-202 Leases of oyster and clam bottoms
- G.S. 113-24 Protection of Waterfowl food growing in public waters

(Statutes Directly Regulating Land or Water Resources Use, con'd)

| | |
|----------------------------|--|
| G.S. 113-229 | Permits to dredge or fill in estuarine waters or state-owned lakes |
| G.S. 113-230 | Orders to control activities in coastal wetlands |
| Chapter 130 Article 13D | N.C. Drinking Water Act |
| G.S. 113-378 et seq. | Oil and Gas Conservation |
| G.S. 113A-30 et seq. | Natural and Scenic Rivers Act of 1971 |
| G.S. 113A-50 et seq. | Sedimentation Pollution Control Act of 1973 |
| G.S. 113A-100 et seq. | Coastal Area Management |
| G.S. 130-157 et seq. | Water and Sewer Sanitation |
| G.S. 130-166.22 | Ground Absorption Sewage Disposal System Act of 1973 |
| G.S. 136-141 et seq. | Junkyard Control Act |
| G.S. 139-1 et seq. | Soil and Water Conservation Districts |
| G.S. 139-47 | Watershed improvement or drainage projects-procedures |
| G.S. 143-214.1 | Water Quality Standards |
| G.S. 143-214.2 | Prohibited Discharges |
| G.S. 143-215 | Effluent Standards |
| G.S. 143-215.1 | Control of Sources of Water Pollution; permits required |
| G.S. 143-215.51 et seq. | Floodway Regulation |
| G.S. 143-215.63 et seq. | Water and Air Quality Reporting Act of 1971 |
| G.S. 143-215.77 et seq. | Oil Pollution Control Act of 1973 |

(Statutes Directly Regulating Land or Water Resources Use, con'd)

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|-----------------------------|-------------------------------------|
| G.S. 143-215.105 et seq. | Air Pollution Control |
| G.S. 143-350 et seq. | Environmental Management Commission |
| G.S. 143-434 et seq. | Pesticide Control |
| G.S. 156-1 to 156-138.4 | Drainage of Land |

B. Statutes Indirectly Regulating Land or Water Resources Use

| | |
|----------------------------|--|
| G.S. 90A-20 et seq. | Certification of Water Treatment Facility Operators |
| G.S. 90A-35 et seq. | Certification of Wastewater Treatment Plant Operators |
| G.S. 143-215.7 | Effect of Water and Air Resources Statutes on laws applicable |
| G.S. 104-1 et seq. | Acquisition of lands by U.S. for specified purposes authorized |
| G.S. 105-227.2 et seq. | N.C. Differential Tax Laws |
| G.S. 113-29 et seq. | Acquisition and control of state forests and parks |
| G.S. 113-54 | Duties of Forest Rangers; payment of expenses by state and counties |
| G.S. 113A-1 et seq. | N.C. Environmental Policy of 1971 |
| G.S. 113A-83 et seq. | N.C. Trails System |
| G.S. 121-9 | Administration of state acquired historic properties |
| G.S. 130-166.16 et seq. | Solid Waste Disposal |
| G.S. 136-122 et seq. | Preservation of Scenic Beauty of Areas Along Highways |

(Statutes Indirectly Regulating Land or Water Resources Use, con'd)

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|-------------------------|---------------------------------|
| G.S. 136-126 et seq. | Outdoor Advertising Control Act |
| G.S. 143-211 et seq. | Water and Air Resources |
| G.S. 146-3 to 15 | Disposition of State Lands |
- C. Land Use Planning or Coordination of Land and Water Resources
Use Statutes
- | | |
|---------------------------------|--|
| G.S. 63-30 to 63-37 | Model Airport Zoning Act |
| G.S. 113A-150 et seq. | Land Policy Act of 1974 |
| G.S. 139-9 et seq. | Soil and Water Conservation District - Adoption of Land Use Regulations |
| G.S. 143-215.38 et seq. | Federal Water Resources Development Projects |
| G.S. 153A-320 et seq. Act 18 | Rights of County Governments with respect to Planning and Regulation of Development |
| G.S. 160A-360 et seq. | Cities and Towns - planning and regulation of development |
- D. "Enabling Statutes"
- | | |
|------------------------|--|
| G.S. 62-46 | Water Gauging Stations |
| G.S. 63-6 | Acquisition of (airport) Sites |
| G.S. 63-55 | Airports on Public Waters and Reclaimed Land |
| G.S. 65-3 | County Commissioners' control of abandoned cemeteries |
| G.S. 77-1 | Commissioners for Opening and Cleaning Streams |
| G.S. 77-11 | Public Landings |
| G.S. 113-30 et seq. | Use of lands acquired by counties through tax foreclosures as demonstration forests |
| G.S. 130-130 | Power of Sanitation District Boards to Condemn Property |
| G.S. 130-206 | Mosquito Control |

("Enabling Statutes" con'd)

| | |
|-----------------|--|
| G.S. 139-38 | Watershed Improvement Districts - Power of Eminent Domain |
| G.S. 139-46 | Recreational aspects of watershed improvement programs |
| G.S. 143-215.2 | General Powers of EMC - local air pollution control programs |
| G.S. 143-215.62 | Hurricane Flood Protection and Beach Erosion Control Project Revolving Fund |
| G.S. 143-260.6 | State Nature and Historic Preserve Act |
| G.S. 162A-1 | Water and Sewer System |

II. FEDERAL LAWS

(A. General Resources Policy and Planning)

| | |
|---|---|
| 42 USC 4321 et seq. Pub. L. No. 91-190 (1970) | National Environmental Policy Act of 1969 (NEPA) |
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| | |
|---|-------------------|
| Housing Act of 1954, Sections 701-03, 40 USC 460-62 (1970), Amending 40 USC 460-62 (1964) | "The 7C1 Program" |
|---|-------------------|

(B. Solid Wastes)

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| Pub. L. No. 89-272, tit. II, 79 Stat. 997, as amended 42 USC 3251-59 (1970) | Solid Waste Disposal Act of 1965, as amended by the Resource Recovery Act of 1970 |
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(C. Coastal Resources)

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|---|-------------------------------------|
| Act of Oct. 27, 1972 16 USCA 1451-64 (Supp. 1973) | Coastal Zone Management Act of 1972 |
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|----------------------------|---------------------|
| 16 USC 1221-1226 (1970) | Estuarine Areas Act |
|----------------------------|---------------------|

| | |
|---|--|
| Pub. L. No. 92-532 86 Stat. 1052, 33 USCA 1401-1441 (Supp. 1973) | Marine Protection, Research and Sanctuaries Act of 1972 (Ocean Dumping Act) |
|---|--|

(C. Coastal Resources, con'd)

| | |
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| 16 USC 661-666 (1970) ELR 41801 | Fish and Wildlife Coordination Act |
| 43 USCA 1331 Act of 1953 | The Outer Continental Shelf Lands |
| 33 USCA 1501 Pub. L. 93-627 | Deep Water Ports Act of 1974 |
| 33 USCA 1221 Sec. 1, Pub. L. 92-340 | Ports and Waterways Safety Act of 1972 |
| 16 USCA 459 q., et seq. Pub. L. 89-366, 1, 80 Stat. 33 | Cape Lookout National Seashore |
| 16 USCA 459 | Cape Hatteras National Seashore Recreational Area |
| 43 USCA 1301 et seq. | Submerged Land Act of 1953 |
| FWPCA 404 33 USCA 1344 | Permits for Dredged or Fill Material ("Section 404") |

(D. Water and Air Resources)

| | |
|---|---|
| 16 USC 1271-87 (1970) | Wild and Scenic Rivers Act of 1968 |
| Act of April 3, 1970, Pub. L. No. 91-224, 84 Stat. 91 | Water Quality Improvement Act of 1970 |
| Pub. L. No. 92-500, 33 USCA 1251 et seq. (Supp. 1973) | Federal Water Pollution Control Act |
| Pub. L. No. 92-500 (1972), 86 Stat. 816.33 USCA 1251 et seq. | Federal Water Pollution Control Act Amendments of 1972 |
| 33 USC 407 | The Refuse Act |
| 42 USC 1857, Sec. 2, Pub. L. Title I. | Clean Air Act of 1955, As Amended, 1967 |

(E. Pesticides)

| | |
|---|--|
| 7 USC 135 et seq. (1970) as amended, 7 USCA 136 et seq. (Supp. 1973) | Federal Environmental Pesticide Control Act of 1972 (FEPCA) |
|---|--|

(F. Historic Sites)

16 USC 470-470m
(1970), as amended,
16, USCA 470h, 470
(1)-470n (Supp. 1973)
and Pub. L. No. 93-54,
87 Stat. 139 (1973)

National Historic Preservation Act of 1966

(G. Conventions)

Part II, Article 23,
1958 (Undoc. A/Conf.
13/L. 52)

Convention on the Territorial Sea
and the Contiguous Zone

Pursuant to UN Con-
ference on the Law
of the Sea, Geneva,
1958

Convention on the High Seas

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